



**Registered Apprenticeship as a
Strategy to Meet Employer
Demand for Skilled Workers**

**Texas Workforce Investment Council
December 2013**

The Mission of Texas Workforce Investment Council

Assisting the Governor and the Legislature with strategic planning for and evaluation of the Texas workforce development system to promote the development of a well-educated, highly skilled workforce for Texas.

Registered Apprenticeship as a Strategy to Meet Employer Demand for Skilled Workers

Final Report

Texas Workforce Investment Council
December 2013

Table of Contents

	Page
Introduction	1
Background	1
The Council and Texas' Workforce System	1
<i>Advancing Texas</i>	2
Apprenticeship Initiative	2
Scope of the Report	2
Registered Apprenticeship	3
History	3
Program Overview	3
Building for the Future	4
Initiative Phases and Timeline	6
Project Overviews	9
Community Health Worker	9
Health Information Technology	11
Comprehensive-National Electrician Solar Training	12
Electrical	14
Information Technology	16
Project Closeout and Identification of Promising Practices	18
Resources for Documenting Promising Practices	18
Overviews	20
Lessons Learned	22
Concluding Comments	26
Appendixes	28
A – Promising Practices	A1
B – Process Flow	B1

Introduction

Background

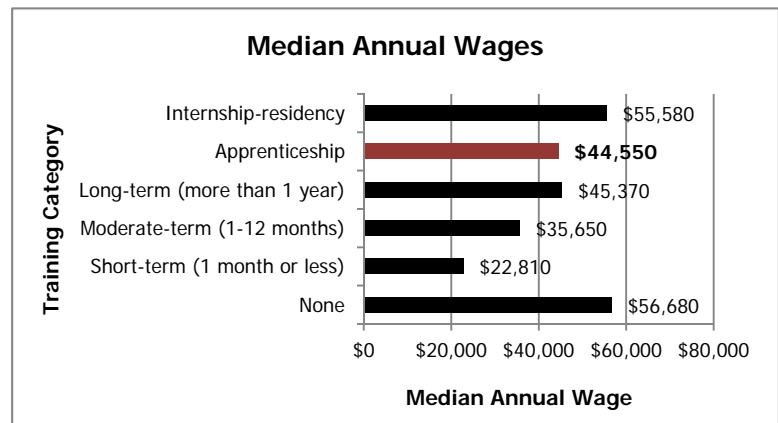
Recent employment projections demonstrate increasing demand in occupations that require some postsecondary education. According to the Georgetown University Center on Education and the Workforce, by 2018, 63 percent of all U.S. jobs and 56 percent of Texas jobs will require workers with at least some postsecondary education. Texas Workforce Commission projections indicate Texas will have an average of nearly 46,200 job openings annually through 2018 for occupations requiring an associate degree or postsecondary vocational award.

"In occupations in which apprenticeship is the typical on-the-job training, employment is projected to **grow by 22.5 percent**, faster than for any other on-the-job training category."

Bureau of Labor Statistics News Release (2/1/2012)

Among occupations in which a high school diploma or the equivalent is typically needed for entry, occupations that have apprenticeships as the typical kind of on-the-job training (OJT) are projected to be the fastest growing and have higher pay. The 2010–2020 employment projections, released in early 2012 by the U.S. Department of Labor's Bureau of Labor Statistics (BLS), note that of occupations that require OJT, median annual wages are higher for apprenticeship and longer-term training programs.¹

To meet future need for skilled workers, strategies must be developed and deployed to increase the number of students in the education and training pipeline. The 2008 revisions to federal apprenticeship requirements provide the opportunity for increased flexibility, which may increase applicability across a broader range of industries and occupations.



In Texas, a number of projects have focused on expanding the number of apprentices in traditional apprenticeship programs through the integration of competency-based design elements and technology, and replicating the model in emerging or high-demand occupational areas outside of the skilled trades.

The Council and Texas' Workforce System

The Texas Workforce Investment Council (Council) was created in 1993 by the 73rd Texas Legislature. The Council is charged with promoting the development of a highly skilled and well-educated workforce for Texas, and assisting the Governor and the Legislature with strategic planning for and evaluation of the Texas workforce system. The 19-member Council includes representatives from business, labor, education, community-based organizations, and five member state agencies.

Texas' workforce system includes the workforce programs, services, and initiatives administered by eight state agencies and 28 local workforce boards, as well as independent school districts, community and

¹BLS Occupational Employment Statistics, May 2010 median wage data. Internship-residency includes highly paid medical practitioners as well as teaching and counseling occupations.

technical colleges, and local adult education providers. System partners are responsible for the delivery of 24 programs and services focused on education, workforce education, and workforce training for adults, adults with barriers, and youth.

Advancing Texas

One of the Council's chief responsibilities in state law is the development of a strategic plan for the Texas workforce system. Working with system partners, the Council completed a yearlong planning process in September 2009. The current system strategic plan, *Advancing Texas: Strategic Plan for the Texas Workforce System FY2010-FY2015 (Advancing Texas)*, was first approved by the Council on September 3, 2009, and by Governor Rick Perry on October 23, 2009. The first update to the plan, incorporating input from all partner agencies, was approved by the Council on March 9, 2012, and by the Governor on May 24, 2012.

"In developing *Advancing Texas*, our Council identified the need for highly trained middle-skills workers as a priority issue. The pilot projects were designed to develop models for nontraditional apprenticeship occupations, and to determine how the new regulations would enable innovative approaches for traditional apprenticeship occupations. As a result, we were able to implement new occupational areas and flexible training strategies. This provided an opportunity to enhance the registered apprenticeship training model as a strategy for increasing Texas' competitiveness."

*Wes Jurey, Council Chair
President – Arlington Chamber of Commerce*

Apprenticeship Initiative

During the development of *Advancing Texas*, Council members identified the need for workers in middle-skill occupations as a priority issue for the workforce system. Middle-skill occupations are those that require more than a high school diploma but less than a four-year degree. One objective and related strategy focuses on registered apprenticeship to address employer demand for skilled workers.

The Council is responsible for implementing the approved action plan for this long term objective. The Council Chair assigned the Executive Committee the responsibility for overseeing implementation and reporting to the Council, and appointed an apprenticeship project leadership team to assist.

Advancing Texas' Action Plan P2 Long Term Objective

By 2012, design, develop, and implement a pilot program to demonstrate the flexibility of the 'earn while you learn' model of traditional apprenticeship programs. Where appropriate, expand and replicate into new occupational areas by 2015.

Advancing Texas is posted on the Council's website at http://governor.state.tx.us/twic/workforce_system/.

The action plan called for the development of pilot projects or models that could be evaluated and potentially replicated. This work is consistent with the Council's charge in Texas Government Code §2308.101(8) to encourage, support, or develop research and demonstration projects designed to develop new programs and approaches to service delivery.

Scope of the Report

This report serves as final documentation of the Council's apprenticeship initiative, including project overviews, lessons learned, and promising practices. A brief overview of the registered apprenticeship system is included, as well as a description of the initiative's phases and timelines. The report also includes two appendixes: (1) promising practice summaries for four projects, and (2) an overview and process map for the initiative, with supporting documents and tools.

Registered Apprenticeship²

History

Apprenticeship is one of the oldest formal training systems in the world, with a long history both in the U.S. and Texas. In 1937, Congress enacted the National Apprenticeship Act³, establishing the program as it is today. Following passage of the act, registered apprenticeship programs were primarily in the manufacturing, construction, and utilities industries. Registered apprenticeship is now found throughout these traditional industries, as well as in emerging industries such as healthcare, energy, and homeland security as a training and development strategy.

The registered apprenticeship system provides opportunities for workers seeking high-skilled, high-paying jobs and for employers seeking to build a qualified workforce. It is a unique, flexible training system that combines job-related technical instruction with structured on-the-job learning experiences. Over time, the registered apprenticeship system has evolved to address advancing technologies and to meet new training and human resource development needs.

Program Overview

Registered apprenticeship programs are developed and enhanced through strategic partnerships among the U.S. Department of Labor's (DOL) Office of Apprenticeship (OA) or a State Apprenticeship Agency, program sponsors, community-based organizations, educational institutions, the workforce system, and other stakeholders. A program may be sponsored by an individual business, an employer association, or a labor organization through a collective bargaining agreement.

The eligible starting age is 16 years of age; however, individuals must usually be 18 to be an apprentice in a hazardous occupation. Program sponsors may also identify additional minimum qualifications and credentials for consideration in the application process (e.g., proof of age, education, ability to physically perform the essential functions of the occupation). Based on the sponsor's apprentice selection method, additional qualification standards such as aptitude tests, interviews, school grades, and previous work experience may be considered.

Each registered program has a written plan designed to move apprentices from low- or no-skill entry-level positions to full occupational proficiency. Programs must meet parameters established under the National Apprenticeship Act that are designed to protect apprentices' welfare.

Registered apprentices receive:

- ▶ *Paid employment* – Apprentices work for pay from the outset, receiving incremental wage increases as their proficiency increases. Some are eligible for health insurance or other employee benefits.

Benefits to the Sponsoring Employer

- ▶ Attracts high-quality applicants who are motivated to succeed
- ▶ Increases productivity by cultivating a highly skilled and knowledgeable workforce
- ▶ Enhances employee relations by developing a collaborative commitment to achievement
- ▶ Provides national and state recognition
- ▶ Enhances problem-solving capabilities and workforce versatility
- ▶ Decreases employee turnover

Source: U.S. DOL.

² DOL OA and Bureau of Labor Statistics.

³ 50 Stat. 664; 29 U.S.C. 50, also known as the Fitzgerald Act.

- ▶ *On-the-job learning and education* – The earn-while-you-learn training model combines structured learning with on-the-job training (OJT) from an assigned mentor. Related instruction and technical training may be provided by apprenticeship training centers, technical schools, community colleges, and/or by computer-based or distance learning.
- ▶ *Nationally recognized credential* – Upon program completion, apprentices earn a “Completion of Registered Apprenticeship” certificate, an industry-issued, nationally recognized credential that validates proficiency in the apprenticeable occupation. In some cases, programs provide apprentices with the opportunity to simultaneously obtain secondary and/or postsecondary degrees.

Apprenticeship continues to grow in Texas and across the nation. For Texas, 15 new programs and 3,746 new apprentices were registered in fiscal year (FY) 2012. Over 1,000 apprentices completed their program during that period. Nationally, over 1,700 new programs were established, more than 147,000 individuals entered programs, and over 59,000 graduated.⁴

Building for the Future

In 2008, the DOL approved revisions to the federal apprenticeship regulations that offer additional flexibility, enabling a wider variety of industries and occupations to use the registered apprenticeship model.⁵ Under the revised regulations, an individual apprenticeship may be measured either through the completion of the industry standard for on-the-job learning (time-based approach), the attainment of competency (competency-based approach), or a hybrid approach that blends the time-based and competency-based approaches. Program length depends on the complexity of the occupation and the type of program, ranging from one to six years with the majority being four years in length. For each year of the apprenticeship, the apprentice will normally receive 2,000 hours of OJT and a recommended minimum of 144 hours of related classroom instruction.

In 2012, registered apprenticeship celebrated its 75th anniversary. As the need for skilled workers increases and the economy faces

greater global competition, apprenticeship offers a competitive advantage for businesses, individuals, labor management organizations, education and workforce investment systems, and government. Apprenticeship in Texas continues to thrive in traditional fields such as construction and manufacturing, while expanding to new areas such as community health, health information technology, and solar technologies.

Project Type Descriptions
<p>The term apprenticeship, which for an individual apprenticeship may be measured either through the completion of the industry standard for on-the-job learning (at least 2,000 hours) (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach).</p> <p>(i) The time-based approach measures skill acquisition through the individual apprentice's completion of at least 2,000 hours of on-the-job learning as described in a work process schedule.</p> <p>(ii) The competency-based approach measures skill acquisition through the individual apprentice's successful demonstration of acquired skills and knowledge, as verified by the program sponsor. Programs utilizing this approach must still require apprentices to complete an on-the-job learning component of Registered Apprenticeship. The program standards must address how on-the-job learning will be integrated into the program, describe competencies, and identify an appropriate means of testing and evaluation for such competencies.</p> <p>(iii) The hybrid approach measures the individual apprentice's skill acquisition through a combination of specified minimum number of hours of on-the-job learning and the successful demonstration of competency as described in a work process schedule.</p> <p>SOURCE: <i>Federal Register</i>, Vol. 73, No. 210, Wednesday, October 29, 2008, p. 64428: §29.5(b)(2).</p>

⁴ DOL Employment and Training Administration data for FY 2012 (10/1/11–9/30/12)

⁵ Title 29, CFR Part 29.

Apprentices can learn valuable skills while earning a wage. A Mathematica Policy Research study released during the registered apprenticeship 75th anniversary summit found that those who complete a registered apprenticeship program earn over \$240,000 dollars more over the course of their lifetime than similar nonparticipants. Of note, non-completing participants earn almost \$100,000 more.⁶

To help grow programs and expand the network of apprenticeship and college partnerships, the DOL announced the organization of the Registered Apprenticeship-Community College Consortium (RACC). In 2011, an ad hoc workgroup was convened to increase articulation agreements among postsecondary education institutions and registered apprenticeship program sponsors. At the September 2011 meeting of the Secretary of Labor's Advisory Committee on Apprenticeship, a proposal was adopted unanimously to form the RACC. Consortium members agreed to accept the registered apprenticeship completion certificate at the value assigned by a recognized third-party evaluator for college credit, for purposes of facilitating the transfer of credit between consortium member colleges.

A web database is under development for the RACC clearinghouse, which will expand and modify the *Pathways to Success* site that is currently housed on workforce3one.org. This website currently lists articulation agreements with colleges and registered apprenticeship programs, and provides information on pre-apprenticeship programs nationwide.

Efforts such as this nationally driven consortium, state-level pilots, and innovative local partnerships, will increase awareness of apprenticeship as a viable, future-oriented training option. The continued evolution of this key form of industry-based education and training is vital for established programs and those being developed for emerging occupations in order to enlarge the pool of individuals with high-demand skills and competencies.

⁶ Mathematica Policy Research, *An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States: Final Report* (July 25, 2012).

Initiative Phases and Timelines

Five major work phases were undertaken to accomplish the *Advancing Texas* objective related to registered apprenticeship. Brief descriptions and actions taken during each phase are outlined below.

Phase 1: Form a Statewide Leadership Team/Steering Committee (November 2009–January 2010)

Description – Convene an apprenticeship project leadership team to assist the Texas Workforce Investment Council (Council) with implementation of the action plan. The leadership team will assist in the identification of pilot projects and work with pilot project sites, as needed, to identify and engage regional partners, understand the guidelines and process to develop a registered apprenticeship program, and address regulatory barriers by liaising with other state and federal partners.

Actions taken – The Council Chair appointed and convened the leadership team in January 2010. The Chair added a representative from the Texas Veterans Commission in March 2010 and a representative from the Texas Department of State Health Services in December 2010.

The leadership team selected the following industries for apprenticeship projects: allied health, health information technology, energy, aviation, and logistics and distribution. The leadership team also defined two types of projects to be considered under this objective:

- ▶ A *pilot project* is one in which a partnership has formed to develop a registered apprenticeship program in an occupational area that has not traditionally used apprenticeship as a means to train its workforce.
- ▶ A *demonstration project* is one in which a partnership has formed to adapt an existing registered apprenticeship program to meet emerging industry demand.

The leadership team met in 2010 and 2011 to hear presentations about proposed projects and to make recommendations to the Council's Executive Committee.

Phase 2: Identify Pilot Projects (February 2010–September 2010)

Description – Identify potential projects to address employer demand for skilled workers through registered apprenticeship training. Employers are required to be active partners in the design and implementation of each project, which is required to be (1) engaged in the modification of an existing registered apprenticeship program to incorporate the increased flexibility afforded by revised regulations, or (2) developing a new registered apprenticeship program in an occupation that is part of one or more of the Governor's six target industry clusters⁷.

As appropriate, projects will incorporate a pre-apprenticeship component for high school students interested in pursuing an apprenticeship program after graduation, and/or for adults interested in registered apprenticeship but who are not prepared for successful completion of the classroom instruction component.

⁷ Governor Rick Perry announced his comprehensive economic development strategy for Texas in 2004. The centerpiece was the development of strategies to strengthen the competitiveness of key industry clusters. The clusters included: advanced technologies and manufacturing, aerospace and defense, biotechnology and life sciences, information and computer technology, petroleum refining and chemical products, and energy.

Actions taken – The leadership team recommended six projects for approval by the Executive Committee. The Executive Committee approved four projects in September 2010, a fifth project in December 2010, and the sixth and final project in March 2011.

Council staff, in consultation with the U.S. Department of Labor's (DOL) Office of Apprenticeship (OA), worked with lead staff for each pilot to develop project plans and implement a quarterly reporting schedule. Demonstration project teams also agreed to report quarterly to the Council on their progress toward implementing the enhancements to their current registered apprenticeship programs.

The leadership team, the Executive Committee, and the full Council were briefed on the status of the project plans and the establishment of a quarterly reporting schedule. The schedule provided for regular written and verbal updates to all three groups.

Phase 3: Seek Funding to Support Pilot Projects (April 2010–ongoing)

Description – Pilot project teams will seek federal, state, and private funding to support their projects and will submit proposals for funding as opportunities arise.

Actions taken (ongoing) – During the project period, Council staff monitored announcements from state and federal partner agencies regarding availability of funds for expansion or creation of registered apprenticeship projects. Where possible, the leadership team assisted selected pilots in identifying and pursuing opportunities for funding needed to develop and implement their programs.

Individual projects have sought and continue to seek funding from a variety of sources including employers; federal, state, or nonprofit grants; and local workforce boards.

Phase 4: Implement and Evaluate Pilot Projects (September 2010–December 2012)

Description – Pilot project teams work with the DOL OA to complete the registration process for the new or modified apprenticeship program.

Actions taken – When project selection was completed, the leadership team's role shifted to:

- ▶ providing support and technical assistance based on members' background and position,
- ▶ helping to identify funding and other resources, and
- ▶ monitoring progress.

A reporting schedule was established, with reports due to the Council each quarter. Project reports were distributed to the leadership team for review prior to quarterly conference calls, and were also used in preparation of the written *Quarterly Update*. This document was used to support regular briefings with the leadership team, as well as the Council and its Executive and System Integration Technical Advisory Committees.

As required by federal regulations, new programs that meet required standards for registration are given provisional approval for a one-year period. At the end of the initial year, the DOL OA reviews the programs after which program approval may be made permanent, continued as provisional, or the program may be recommended for deregistration. Pilot project teams were asked to report on the review outcome as part of their quarterly reporting to the Council. The intent was for the leadership team to prepare recommendations to the Executive Committee regarding replication of successful pilots.

Throughout the project period, the leadership team reported to the Council's Executive Committee, which was charged with overseeing implementation of this action plan. In March 2012, the leadership team met in conjunction with the Executive Committee, and representatives of the five active projects made presentations.

Phase 5: Replicate Successful Projects (2013–2015)

Description – The Council will publish a report on the projects and recommendations for successful replication. The Council and lead staff for projects will participate in presentations and other modes of communication to discuss lessons learned and promote replication.

Actions taken – As implementation proceeded, project teams provided documentation of processes and tools developed for the apprenticeship projects. The Council requested information related to: (1) developing standards and achieving registration, (2) developing targeted marketing materials, (3) working with employers, (4) developing student and instructor guides, and (5) distributing and promoting use of these and other examples.

Items received included:

- ▶ employer needs assessment and long-term educational plan⁸,
- ▶ DOL request for approval of online training option and executive summary of the online program,
- ▶ process for developing and documentation of expanded service areas,
- ▶ marketing plans,
- ▶ customizable marketing brochure and promotional postcard,
- ▶ student and instructor user manuals, and
- ▶ detailed computer, browser, and software requirements for online training.

The detailed promising practice summaries provided in Appendix A include references for applicable tools and processes. The final project report includes information on lessons learned and promising practices identified during the review period. It will be distributed to leadership team members and to lead staff of the pilot and demonstration projects. The report, and documentation collected during the project period, should serve to inform future workforce planning efforts.

⁸ Project deliverables under Texas State University (TSU) grant. TSU was an educational partner on the Health Information Technology pilot project.

Project Overviews

The apprenticeship project leadership team reviewed projects in the following target industries: allied healthcare, health information technology, energy, aviation, and logistics and distribution. The leadership team then recommended, and the Executive Committee approved, six projects. The sixth focused on the north Texas manufacturing industry. It was approved by the Executive Committee in March 2011 and discontinued in July 2011 at the request of the project director.

Profiles for five projects with extensive activity are provided in this section. They include:

- ▶ *Community Health Worker* – Coastal Area Health Education Center [pilot]
- ▶ *Health Information Technology* – Dallas-Fort Worth Hospital Council Education and Research Foundation [pilot]
- ▶ *Comprehensive-National Electrician Solar Training* – Austin Electrical Joint Apprenticeship Training Committee, ImagineSolar, and the Capital Area Workforce Board [demonstration; grant ended July 14, 2012]
- ▶ *Electrical – Distance Learning, Pre-Apprenticeship, and Outreach to Underserved Populations* – Independent Electrical Contractors of Texas [demonstration]
- ▶ *Information Technology* – New Horizons Computer Learning Centers [pilot; closed May 22, 2012]

Community Health Worker

Area Health Education Centers (AHEC) are regionally focused academic and community partnerships, working to develop a quality health workforce and to provide access to healthcare in underserved areas. Texas AHEC East, one of three AHECs in Texas, is composed of nine regional offices that serve 111 counties and over 18 million people. The Texas AHEC East Coastal Region (Coastal Region) is implementing registered apprenticeship

Promising Practice

See 'Community Health Worker: New Apprenticeable Occupation' in Appendix A.



as a means of creating a replicable training model for Community Health Workers (CHW).

Coastal Region served as the lead agency and as a training partner for the CHW project. This AHEC is certified by the Texas Department of State Health Services (DSHS) as a training institution. The center provides the required 160-hour CHW curriculum and continuing education for both CHWs and instructors. Participants work in the field while in training, and are classified as trainees until completing the required curriculum and receiving their certification.

The project team created a CHW training model for consistent, quality instruction, coupled with on-the-job learning. CHWs are frontline public health workers who serve as liaisons between underserved communities and healthcare and social service providers. This training model has the potential to increase the quality and quantity of CHWs in Texas and other states, thereby playing an important role in meeting growing demand.

Key partners included:

- ▶ *Training partner/employer support* – Texas AHEC East Regional Operations and regions: Capital, Coastal, DFW, Greater Houston, North Central, Northeast, Piney Woods, Victoria, and Waco.
- ▶ *Current and potential apprenticeship sites*: Stephen F. Austin Community Health Center; Chambers Health Inc.; Matagorda Episcopal Health Outreach Program; South East Texas Health Access Network; National Heart, Lung, and Blood Institute; Baptist Orange Hospital; and Orange County.

Planned outcome measures included:

- ▶ Number of employers registered as apprenticeship sites;
- ▶ Number of CHW apprentices beginning the program;
- ▶ Number of CHW apprentices completing the program;
- ▶ Number of CHW apprenticeship completers who retain or gain employment;
- ▶ Percent of employers rating the didactic training as helpful or very helpful; and
- ▶ Percent of CHW apprentices that rate the didactic training as helpful or very helpful.

Based on the Coastal Region's submission, the U.S. Department of Labor (DOL) approved CHW as an apprenticeable occupation in July 2010. Using a hybrid training model, the apprenticeship program includes 2,000 to 2,200 hours of on-the-job learning and up to 300 hours of classroom instruction. The classroom instruction includes 160 hours focusing on eight core competencies required by DSHS and 140 hours of supplemental training that allow for movement into other healthcare fields or additional specializations (e.g., diabetes, cardiovascular disease).

Major activities completed during the pilot period included:

- ▶ Coastal Region changed its status to "group non-joint" apprenticeship sponsor, allowing the entity to sponsor apprenticeships without being the direct employer. This greatly decreases the paperwork required of employers and is expected to increase participation.
- ▶ Since initial approval of the occupation, Texas AHEC East received federal funding for a Primary Care Integration Project. Under this multi-year project, a behavioral health component will be added to the core curriculum and piloted within the apprenticeship model in multiple primary care sites in the Coastal Region. An additional pilot year will include multi-state primary care locations.
- ▶ Apprenticeships have been included in several grant applications. Coastal Region assisted communities with state grant applications. Waller County was funded through Texas AHEC East Greater Houston, which was to be the registered employer and trainer for eight apprentices. However, due to the grant timeline and time required for employer registration, the CHWs involved in the project were not registered as apprentices. The change to group non-joint status might alleviate such issues for future projects.
- ▶ CHWs are included in multiple projects focused on healthcare improvements being implemented through regional healthcare partnership plans. The plans, under the state's Medicaid Transformation Waiver, are approved by the Texas Health and Human Services Commission and the federal Centers for Medicare and Medicaid Services.
- ▶ The AHEC has presented the apprenticeship model at events sponsored by the DOL and multiple states. The DOL and the U.S. Department of Health and Human Services (HHS) held webinars for

the workforce and AHEC systems, presenting opportunities for collaboration and apprenticeship as an option for CHW and other health professions.

- ▶ In August 2012, the DOL held a summit to celebrate the 75th anniversary of the National Apprenticeship Act. Texas AHEC East was honored as a *Registered Apprenticeship Innovator and Trailblazer* for implementing a statewide CHW training and certification methodology.

Coastal Region staff continues to build relationships with employers and workforce system partners within the region and at the state and national levels. These efforts have created a better understanding of both AHEC and workforce roles, which is expected to increase opportunities for collaboration.

The organization plans to continue the apprenticeship initiative and to seek financing through federal, state, and local grants as well as employers and local workforce boards. The project team is also pursuing options with several community colleges and universities regarding a mechanism for CHWs trained through the AHEC program to obtain college credit.

Health Information Technology

The Dallas-Fort Worth Hospital Council Education and Research Foundation (Foundation) – North Texas Regional Extension Center (NTREC) served as the program sponsor with management and oversight responsibility for the Health Information Technology (HIT) project.

Promising Practice
See 'Building and Strengthening Educational Partnerships' in Appendix A.

In April 2010, HHS announced \$267 million in federal grant awards to 28 additional nonprofit organizations to establish HIT Regional Extension Centers (RECs). Funded by the American Recovery and Reinvestment Act (ARRA) of 2009, the grants were intended to support the growing HIT industry, which is expected to employ thousands of workers in occupations ranging from nurses and pharmacy technicians to information technology (IT) technicians and trainers.



HHS designated the Foundation as the NTREC. As one of four Texas RECs, the Foundation received a two-year grant of almost \$8.5 million to help grow the emerging HIT industry for a multi-county region centered on the Dallas-Fort Worth metroplex. NTREC assists primary care providers to achieve “meaningful use”⁹ of electronic health records through HIT workforce development. The demand for skilled workers is being driven by the timetable established by HHS for implementation of the Health Information Technology for Economic and Clinical Health Act of 2009.

The primary focus of the Foundation’s grant was not workforce development, but rather to offset physician and provider (e.g., pharmacies, hospitals, labs) costs associated with electronic health record implementation. However, \$175,000 in grant funds were allocated by NTREC to finance the apprenticeship initiative for two years, including an investment of \$10,000 per apprentice.

The implementation area consisted of the 42 counties located in the Northeast Texas region. Key partners at various stages of the project included:

- ▶ *Educational partners* – Richland College of the Dallas County Community College District and Texas State University (TSU); and

⁹ Meaningful use – set of standards defined by the Centers for Medicare & Medicaid Services Incentive Programs that governs the use of electronic health records and allows eligible providers and hospitals to earn incentive payments by meeting specific criteria.

- ▶ *Employers* – Vitera Healthcare Solutions (Sage), WaveTwo, Sandlot, Private Practice Initiatives, Baylor Health Care System, Texas Health Resources, and John Peter Smith Health System.

Planned outcome measures included: (1) the number of employers participating by completion of the pilot project, and (2) the number of apprentices trained by completion of the pilot project.

The project facilitated time-based models for several IT occupations. Employers and educational institutions were involved in the development of a work process that includes on-the-job training, classroom instruction, and mentoring.

Major activities completed during the pilot period included:

- ▶ Richland College adapted the nationally developed curriculum to meet regional needs. After apprenticeship completion, participants could seek HIT certification by the American Health Information Management Association.
- ▶ The project team worked with TSU to identify skill sets, conduct an employer survey, and create an inventory of postsecondary and continuing education training options. A needs assessment and a long-term educational plan were released in 2012.
- ▶ The first apprentice was scheduled to enroll in 2012; however, the employer reduced staff and could no longer participate. NTREC worked to reengage employers and develop relationships with potential new partners including hospital physician groups.
- ▶ The federal grant was extended through 2014 for a four-year total of \$9.4 million, but was terminated early in September 2013 due to federal budget cuts. Sustainability plans for continuing the NTREC following grant expiration are being developed.

Comprehensive-National Electrician Solar Training

In 2009, the DOL announced plans to distribute approximately \$100 million in ARRA green jobs training grants. The Austin Electrical Joint Apprenticeship Training Committee (AEJATC), ImagineSolar, and the Workforce Solutions Capital Area (Capital Area) formed a unique partnership. In January 2010, the AEJATC was awarded over \$4.8 million for a project to develop a ready supply of well-trained workers for the growing solar renewable energy sector in Central Texas.

Promising Practice

See 'Serving New and Incumbent Workers' in Appendix A.

The Comprehensive-National Electrician Solar Training (C-NEST) initiative was the only Texas-based grant recipient out of the 25 projects chosen nationally. C-NEST viewed itself as a demonstration of regional collaboration and partnership in conducting residential, commercial, and utility solar electrical training on a large scale. It was designed to train new and current electrical workers for residential, commercial, and utility-scale solar photovoltaic (PV) technology construction projects. PV refers to technology that uses solar panels to convert sunlight to electricity.



Under the terms of the DOL's solicitation for grant applications, only the AEJATC was eligible to serve as the grantee. However, prior working relationships with ImagineSolar and Capital Area created a solid foundation and the three project partners wanted to share responsibility equally.

ImagineSolar and Capital Area created a solid foundation and the three project partners wanted to share responsibility equally.

Key partner roles were:

- ▶ *AEJATC* – Established in 1945, the AEJATC program is jointly sponsored by the Central Texas Chapter of the National Electrical Contractors Association (NECA) and the International Brotherhood of Electrical Workers (IBEW) Local Union 520. It provides Austin and Central Texas with trained and educated electricians through options such as a DOL-registered apprenticeship program and continuing education required for Texas’ license renewal.

The AEJATC, the DOL grantee, provided the program facilities. The AEJATC was also responsible for member outreach, program eligibility, scheduling and providing training for the electrical courses, reviewing and approving invoices, and other project coordination activities.

- ▶ *ImagineSolar* – Founded in 2002, ImagineSolar is the first licensed solar and smart grid school in Texas. The for-profit company offers over 200 hours of courses and workshops as well as project consulting, workforce training, and custom courses for corporate clients. ImagineSolar provided solar electrical training, proctored exams, and managed student attendance and course completion tracking.

Early in the grant period, ImagineSolar specified the equipment and supplies needed to provide the training and was responsible for securing bids for the procurement process. As participants completed training, ImagineSolar took the lead in providing job development services, and implemented an employer outreach program that utilized LinkedIn and Facebook social media.

- ▶ *Capital Area* – One of 28 local workforce boards in Texas, Capital Area served as the administrative and fiscal agent. This arrangement allowed the AEJATC and ImagineSolar to focus on outreach and training. Capital Area also managed the procurement process and assisted with outreach and with connecting trainees to employment.

The project plan was to train approximately 1,000 electrical workers for the growing solar renewable energy sector in Central Texas, including construction wiremen/construction electricians, apprentices, and journeyworker electricians. Outreach was conducted through the IBEW, local workforce board one-stop centers, community-based organizations, veterans representatives, and the NECA.

Train-the-trainer sessions were planned for the five-state area covering Arizona, Kansas, New Mexico, Oklahoma, and Texas. The DOL later approved a grant modification allowing on-site training by certified instructors and participant access to equipment for hands-on activities.

During the grant period, over 2,000 participants enrolled in training including 340 who exited but returned for additional training. As of September 2012, over 46 percent earned credentials (e.g., North American Board of Certified Energy Practitioners (NABCEP) Entry Level and PV Installer exams, OSHA 10 certification). Detailed completion, certification, employment, and retention data are available with selected data presented in the table at right.

C-NEST Final Data	
Participants Served (includes 340 exiters who returned for additional training)	2,008
Exiters	1,986
Completed Education/Job Training Activities	1,219
Earned Credential	
Individuals completing program*	559
Individuals not completing the program**	239

*NABCEP Entry Level Exam, NABCEP PV Installer Exam and/or OSHA 10 certification.

**OSHA certification.

SOURCES: C-NEST Narrative Report Q3-2012 Final Report and Standardized Quarterly Performance Report. Submitted to the DOL for the quarter ending 9/30/12.

The project was successful due to clearly defined roles that were outlined in a partnership agreement, frequent communication including weekly meetings, and the willingness to evolve as implementation

proceeded. As documented in the promising practice, C-NEST served both new and incumbent workers and was adapted and expanded in response to the needs of employers, as well as current and prospective participants. Over the project period, course schedules and delivery methods were revised to better accommodate participants. Night and weekend classes were made available, including online options. In addition, a Solar Technical Sales course was added to enhance participants' skill sets and employability.

The National Governors Association recognized C-NEST as a promising practice and the local board was awarded the National Association of Workforce Boards' *2012 Workforce Investment Board Grand Prize*, in part for this project.

Electrical

The ultimate goal of the Independent Electrical Contractors (IEC) of Texas project was to implement training strategies throughout the state that result in a ready supply of well-trained electrical workers.

Promising Practice

See 'Registered Apprenticeship: Distance Learning' in Appendix A.

To enhance registered apprenticeship, the IEC project incorporated three strategies, including options approved by the DOL in the 2008 revisions to the federal apprenticeship regulations: distance learning, pre-apprenticeship, and expanded outreach to youth and women. Apprenticeship and training committees were created to develop each strategy, and chapters were able to select one or more strategies that were compatible with their available resources and goals.

The IEC of Texas, a nonprofit trade association for independent electrical contractors, served as the project lead. Members provide construction, installation, service, and repair work for residential, commercial, and industrial customers. With 12 local chapters, the IEC of Texas has over 400 electrical contractor members in Texas. The group sponsors a four-year electrical apprenticeship program that is registered with the DOL.

Key partners included:

- ▶ IEC of Texas, 12 local IEC chapters in Texas, and the IEC Atlanta Chapter;
- ▶ Employers such as Caliber Solutions Inc., Humphrey & Associates Inc., and Trico Enterprises Inc.;
- ▶ Tarrant County and North Central Texas local workforce boards; and
- ▶ School districts, community organizations, and veterans organizations.

Planned outcomes included:

- ▶ Distance-learning design completed and available fall 2011 (completed).
- ▶ Pre-apprenticeship program revised (completed) and implemented fall 2011 (pending).
- ▶ Outreach and recruitment of youth expanded fall 2011 (ongoing).
- ▶ Outreach and recruitment of women developed and implemented fall 2011 (ongoing).

Brief status summaries for the three project components are provided below:

Distance Learning – For distance learning, the overall goal was to establish an integrated learning model to provide access for apprentices in all areas of Texas. The 12 IEC chapters in Texas worked to ensure

availability across the state. A task force with representatives from all chapters collaborated to select areas and provide program access for counties not covered by a local chapter.

The IEC of Texas, working with the 12 local chapters, designed the distance-learning option in partnership with the IEC Atlanta Chapter. Launched in fall 2011, the new delivery mode enables apprentices in remote areas to receive real-time classroom instruction through the use of computers and webcams.

In 2011, the Fort Worth/Tarrant County Chapter implemented the first-year curriculum, which includes interactive online work and hands-on lab time. Two participants (50 percent) graduated. In fall 2012, the Gulf Coast Chapter started a new class with three participants. After enrollment declined, the remaining student transferred to the classroom format.

The program is available statewide and marketing efforts are ongoing. Second-year through fourth-year classes will be added as apprentices progress through the program and opt to continue via distance learning.

Earlier this year, project representatives met with West Texas contractors to discuss the program. New interest was generated and the Fort Worth/Tarrant County Chapter planned to start a new first-/second-year class for apprentices from their expanded service area. Scheduled to start in fall 2013, the sponsoring contractors for the new class will be registered as Fort Worth/Tarrant County Chapter members.

"IEC Fort Worth/Tarrant County Chapter is excited to report the interest in our electrical apprenticeship program through distance learning has greatly increased with the expansion of our chapter territory we are working with other companies interested in using the program in West Texas and other IEC chapters in Texas very important to be able to have a more flexible date for starting the program."

*Marcie Funchess, Executive Director
IEC Fort Worth/Tarrant County Chapter*

To date, ad hoc program feedback has been collected rather than formal feedback through more structured mechanisms such as online or telephone surveys. Information will continue to be collected from contractors, chapter staff, apprentices, and instructors.

In addition, efforts are ongoing to build employer support for this delivery option. It is expected to grow, as many contractors are working out of town. Federal and/or state grant opportunities may be pursued and start dates may be modified to accommodate more students.

Pre-apprenticeship – The pre-apprenticeship program builds on the program previously developed and implemented by the Fort Worth/Tarrant County Chapter in partnership with the Tarrant County workforce board. The 240-hour curriculum was finalized and distributed to all IEC chapters. It includes topics such as employability skills, OSHA requirements, and math in order to facilitate participants' transition into IEC Registered Apprenticeship programs.

The Fort Worth/Tarrant County Chapter has been working with the Tarrant County workforce board and the Naval Air Station Joint Reserve Base in Fort Worth to present a pre-apprenticeship program for veterans. Workforce board efforts to identify funding are ongoing.

A green job component may be added in the future, expanding the modular curriculum to up to 320 hours. When implemented, IEC chapters will partner with their local boards to identify pre-apprenticeship candidates. Federal, state, and nonprofit grants may be pursued in an effort to implement and expand this offering.

Outreach to Youth and Women – Outreach was conducted through secondary schools, local workforce boards, community organizations, and nonprofit organizations such as San Antonio's George Gervin Center. IEC chapters expanded outreach efforts through planned and completed activities such as those noted on the following page.

- ▶ Beginning in fall 2011, the Fort Worth/Tarrant County Chapter partnered with an area school district to offer some of its courses in high school. The courses were already available in some schools in the Austin and San Antonio areas. The chapter planned to start a regular apprenticeship program within the Birdville Independent School District during the 2013–14 school year.
- ▶ Local chapters sponsor and participate in high school career fairs and sponsor Skills USA competitions.
- ▶ Marketing campaigns directed to high school counselors were completed during the project period and such efforts are ongoing.
- ▶ Outreach and recruitment of women included work with veterans organizations, local workforce boards, and other community organizations. Chapters also participate in job fairs.



Information Technology

New Horizons Computer Learning Centers served as the convener for a project designed to address multiple IT occupations. The company also planned to provide technical instruction and conduct testing for IT industry certifications. The original implementation area encompassed the I-35 corridor from Dallas to San Antonio and expanded to include the 13-county Gulf Coast planning region.



Founded in 1982, today over 300 New Horizons Computer Learning Centers operate worldwide. In August 2009, the company was awarded a \$580,685 DOL grant to support development of an apprenticeship model incorporating competency-based learning. Under the grant, New Horizons developed standards for five IT occupations for Indiana's largest healthcare employer. This work served as the basis for the Texas project. At the time of project approval, four had been registered with the DOL, with others in development or planned. Median hourly wages (2009 data) for the seven occupations ranged from \$20.89-\$54.86 per hour.

As the project convener, New Horizons worked to build project partnerships with multiple entities including the DOL, public and private training providers, a community-based organization, local workforce boards, and employers. Several employers initially expressed interest in providing apprenticeships from 2010–2015 and the company continued to engage new partners.

Key partners and their roles included:

- ▶ Wonderlic Inc. – designed and validated assessment to predict learning ability and training success.
- ▶ Project QUEST, Inc. – served as fiscal agent for federal and foundational funds; provided client assessment, basic skills delivery, referral of target population, placement, and support services.
- ▶ Element K Corporation – assisted with tracking system and provision of classroom training materials.
- ▶ Door64.com – assisted with outreach efforts to Central Texas employers and job seekers.

- ▶ Employers such as JPS Health Network – assisted with efforts to modify or develop new registered apprenticeship programs and with outreach efforts to determine job training needs or apprenticeship opportunities; teleNetwork Inc. was added in 2011; Koncert and Microsoft were added in 2012.

The apprenticeship program was designed as a competency-based model to enable participants to accelerate their completion timeline if they have prior knowledge and skills. If successful, the model was expected to be appropriate for adoption by a wide variety of businesses that employ IT professionals.

Total time commitments ranged from:

- ▶ Computer Support Specialist (Help Desk Technician) – 2,224 hours, including 2,004 hours of on-the-job learning, supplemented by 220 hours of related instruction.
- ▶ IT Project Manager – 6,588 hours, including 6,144 hours of on-the-job learning, supplemented by 444 hours of related instruction.

Planned outcome measures included: (1) the number of new program sponsors, and (2) the number of registered apprentices. However, in late 2011, the project lead relocated to another state to manage another part of New Horizons' business. In May 2012, the company determined that it could no longer dedicate resources to the pilot.

Project Closeout and Identification of Promising Practices

Resources for Documenting Promising Practices

In selecting promising practices for documentation, information from multiple sources was taken into consideration, including: project plans, written and verbal quarterly reports, documented tools and processes, and closeout survey responses.

The promising practices are Council products, not reports from the project teams. They can be used as stand-alone reports and are included in Appendix A. Information from the projects and the overall initiative will help inform future workforce planning efforts.

Project Plans – Council staff, in consultation with the U.S. Department of Labor’s (DOL) Office of Apprenticeship, worked with the pilot’s lead staff and selected demonstration projects to develop project plans that were endorsed by all three parties. A standardized format was developed that incorporated information from the project team’s original presentation to the leadership team and additional information requested during plan negotiations.

Project plans included:

- ▶ project overview (i.e., project lead, registered apprenticeship occupation, implementation region, program type, start date, outcome measures);
- ▶ major tasks/activities, including target start and completion dates, interim milestones, and reporting schedule;
- ▶ narrative program description;
- ▶ list of participating entities and employers; and
- ▶ resource needs.

Quarterly Reports – During the review period, pilot and demonstration project teams submitted written quarterly reports and presented verbal updates to the leadership team. A standardized format was developed for use by pilots and demonstration project teams.

For one federally funded demonstration project, the project team agreed to report on progress toward implementing the enhancements to their current registered apprenticeship program by submitting reports required under the terms of their DOL grant award.

Quarterly reporting components included:

- ▶ a narrative update on project activities during the previous quarter including change or completion of major tasks specified in the project plan, addition of new partners, and identification of resource needs;
- ▶ quantitative results for the past quarter for specified outcome measures; and
- ▶ a summary of lessons learned during the quarter, including observations, challenges, and successes.

Project staff was also asked to submit electronic and hard copies of efforts to document processes and/or develop tools as they became available. Examples include:

- ▶ process for developing standards and achieving registration;
- ▶ presentation materials for use with employers and other stakeholder groups, developed internally or in conjunction with other project stakeholders (e.g., federal agency staff);
- ▶ targeted, customizable marketing materials; and
- ▶ student and instructor guides.

Related external documents were also collected. Examples include: (1) project award or recognition and accompanying descriptive information, (2) related documents created in conjunction with another project partner(s) (e.g., long-term educational plan), and (3) formal evaluation report conducted by a third party.

Closeout Surveys – Customized surveys were developed for the four projects with ongoing activity through the review period or the end date of their grant period, as applicable. Requested information included:

- ▶ project status as of June 30, 2013, including updated information on active project partners and apprentice status (i.e., registration in progress, registered/active, registered/inactive);
- ▶ detailed description of lessons learned, both positive and challenging, noting those recommended by the project team for consideration as a promising practice;
- ▶ tool/process documentation, noting those recommended for consideration as a promising practice;
- ▶ next steps and sustainability plans;
- ▶ evaluation of employer satisfaction, current and planned;
- ▶ evaluation of apprentice satisfaction, current and planned; and
- ▶ optional other information.

For the purposes of this effort, a promising practice was not limited to achievement of numeric outcomes. All projects faced challenges during the economic recession and recovery, yet achieved results that should support the overall growth of their respective industries in the future. To that end, the Council focused on a unique attribute of each project, regardless of the implementation stage, to highlight the potential value of expanding the registered apprenticeship model into new occupational areas and using new delivery modes, fostering strong partnerships, and adapting as stakeholder needs evolve.

As the promising practice summaries were developed, lead project staff and selected leadership team members, if applicable, were provided the opportunity to review and comment. Completed documents were presented to the Council, Executive Committee, and/or leadership team at each scheduled meeting.

Overviews

Promising practices were selected and documented for each of the four projects with sustained activity over the project period. Brief descriptions are presented in this section, with the full reports included in Appendix A.

Community Health Worker (CHW)

*... obtaining approval of a new
apprenticeable occupation ...*

Area Health Education Centers (AHEC) are regionally focused academic and community partnerships, working to develop a quality health workforce and to provide access to healthcare in underserved areas. Texas AHEC East, one of three AHECs in Texas, is composed of nine regional offices that serve 111 counties and over 18 million people. The Texas AHEC East Coastal Region (Coastal Region) is implementing registered apprenticeship as a means of creating a replicable training model for consistent, quality instruction to CHWs, coupled with on-the-job learning.

Based on the Coastal Region's submission, the DOL approved CHW as a new apprenticeable occupation in July 2010. The apprenticeship program includes 2,000 to 2,200 hours of on-the-job learning and up to 300 hours of classroom instruction, including 160 hours focusing on eight core competencies required by the state and 140 hours of supplemental training that allow for movement into other healthcare fields or additional specializations (e.g., diabetes, asthma).

The promising practice report provides a project overview, with emphasis on the process for obtaining approval as a new apprenticeable occupation and assignment of a new Standard Occupational Classification code, as well as a detailed description of the CHW model.

Health Information Technology (HIT)

*... building and strengthening
educational partnerships ...*

The U.S. Department of Health and Human Services designated the Dallas-Fort Worth Hospital Council Education and Research Foundation (Foundation) as the North Texas Regional Extension Center (NTREC). Using federal grant funds, NTREC assists primary care providers to achieve "meaningful use" of electronic health records through HIT workforce development.

The primary focus of the Foundation's grant was not workforce development, but rather to offset physician and provider costs associated with electronic health record implementation. From those funds, \$175,000 was used to finance an apprenticeship pilot for two years, including an investment of \$10,000 per apprentice.

The promising practice report documents efforts to build and strengthen educational partnerships as a promising practice. It contains an overview of related work by and with Richland College of the Dallas County Community College District and Texas State University, as well as general information about the project and lessons learned during the pilot period.

Comprehensive-National Electrician Solar Training (C-NEST)

... serving new and incumbent workers ...

In 2009, the DOL announced plans to distribute approximately \$100 million in green jobs training grants through the American Recovery and Reinvestment Act of 2009. In January 2010, the Austin Electrical Joint Apprenticeship Training Committee, working in partnership with the Capital Area workforce board and ImagineSolar, was awarded over \$4.8 million for its project. C-NEST viewed itself as a demonstration of regional collaboration and partnership in conducting residential, commercial, and utility solar electrical training on a large scale.

The promising practice report documents the project's strategies for serving both new and incumbent workers. It contains an overview of programmatic and administrative elements, focusing on ways in which the project was adapted and expanded in response to employer, as well as current and prospective participant, needs.

Electrical

... utilizing distance learning as a training method ...

The Independent Electrical Contractors (IEC) of Texas project incorporates three strategies that were approved by the DOL in the 2008 revisions to the federal apprenticeship regulations: distance learning, pre-apprenticeship, and outreach to youth and women. Under this initiative, local IEC chapters are able to select one or more strategies that are compatible with their available resources and goals. For distance learning, the overall goal is to establish an integrated learning model to provide access for apprentices in all areas of Texas.

The IEC of Texas and 12 local chapters designed the distance-learning option in partnership with the IEC Atlanta Chapter, based on the successful online program developed for IEC apprentices in Georgia. Many registered apprentices travel to work and do not have ready access to a physical classroom. The online distance-learning program offers an effective means of delivering educational material to the apprentices of IEC member contractors, regardless of work location.

The promising practice report contains an overview of programmatic and administrative elements, and identifies tools and processes that may be appropriate for replication. Given the early stage of implementation and its lead role, much of the information provided is specific to the IEC Fort Worth/Tarrant County Chapter.

Lessons Learned

Texas potentially faces a shortage of middle-skilled workers for jobs in established occupations and in industries that are rapidly growing and/or evolving. For decades, registered apprenticeship has been a proven training option, providing job seekers with skills training and employment while providing employers with qualified workers.

The focus of the Texas Workforce Investment Council's (Council) initiative was to assess options for expanding the registered apprenticeship model to new areas and through implementation of more flexible training options. To assess the model's viability, the Council studied diverse projects that offered insight for future planning efforts, identification of promising practices, and possible replication of selected program elements.

Expanding to New Industries and Occupations

The apprenticeship programs studied by the Council were required to be registered by, or in the process of registering with, the U.S. Department of Labor (DOL). All five demonstrated ways in which the apprenticeship model can be adapted for applicability in new industries and occupations.

- ▶ *Community Health Worker (CHW)* – Created a replicable training model for a comparatively new healthcare occupation, designed to meet employer needs for variable skill sets and offer participants the opportunity to enter specialty areas.
- ▶ *Health Information Technology (HIT)* – Worked with industry and educational partners to address fast-track implementation of new skills training for a rapidly expanding, evolving field.
- ▶ *Comprehensive-National Electrical Solar Training (C-NEST)* – Enhanced photovoltaic (PV) technology training for the growing solar renewable energy sector in Central Texas; expanded to a five-state region.
- ▶ *Electrical (IEC)* – Restructured the program delivery model to include flexible distance-learning options and to attract nontraditional participants to a traditional trade occupation with a long history of registered apprenticeship.
- ▶ *Information Technology (IT)* – Expanded a training model successfully implemented in another state.

Implementation Timing and the Value of Relationship Building

Strong employer involvement to support industry-driven, on-the-job training is critical to a program's success. With implementation under way during the economic recession and recovery, the importance of employer support and involvement was reinforced across projects. Strategies for working with employers varied by project, based primarily on whether the proposed program supported a new, evolving, or established occupation(s) and/or how many and how quickly workers were needed. In addition to employers, other key partners included the project advisory committee, educational partners, and in some cases, external funding entities, trade organizations, state agencies with occupational oversight or licensing responsibility, and other federal or state stakeholder organizations.

The projects were unique in structure, offering several insights during the review period. General observations and examples of lessons learned and challenges reported by the project teams include those noted below.

- ▶ During times of economic uncertainty, employer support and funding for paid training positions or optional programs such as the IEC's pre-apprenticeship program were difficult to obtain. For other projects, planned apprenticeship slots were canceled as employers faced budget cuts or workforce changes during the recession. The IT project team reported that while jobs were in demand, obtaining employer support and funding were difficult during this period.
- ▶ The C-NEST project was led by three partner organizations with strong relationships established prior to the solar energy grant award. The roles and relationships evolved and strengthened over the grant period and the partners continue to work together on apprenticeship and training efforts.
- ▶ Federal grant opportunities were reduced or deferred. While C-NEST received a no-cost extension for an existing grant, the HIT project's grant funding ended early due to the federal sequestration.
- ▶ In developing programs for new occupations or changing skill requirements, efforts such as the HIT project faced challenges common to a rapidly evolving industry. Requisite skills sets were being defined and refined in response to federal legislative requirements and mandated timelines. In addition, employer demand was of a more short-term nature that did not fit well with the longer-term nature of apprenticeship.
- ▶ CHW is a relatively new occupation and apprenticeship has not been commonly utilized in the healthcare field. To establish and enhance employer relationships, the team dedicated limited resources to educate potential partners on registered apprenticeship as a training model. They also presented CHW as an occupation with multiple application options based on employers' skills needs.
- ▶ In addition to increasing employer understanding, the CHW project team devoted resources to educating and building relationships across Texas, with other states, and with national stakeholder groups. Numerous presentations have been made, often at the DOL's request, to educate staff from the workforce and healthcare training delivery systems.
- ▶ Benefiting from prior efforts, the IEC project team drew on previous work by the IEC Atlanta Chapter when developing the distance-learning model. Project materials were developed and shared with all IEC chapters in Texas and the chapters worked collaboratively to ensure the program could be delivered statewide.
- ▶ Program partner affiliations may offer the opportunity to improve program effectiveness and long-term viability. For example, the HIT project's primary educational partner was a member of the national consortium of community colleges charged with developing a curriculum for use across the U.S. Work with another educational partner provided the opportunity to assist with an employer needs assessment and development of a long-term educational plan for the field.
- ▶ The CHW program sponsor worked with the DOL to change its status to group non-joint apprenticeship committee, allowing it to sponsor apprentices without being the direct employer. This lessened employer paperwork, which had been a deterrent when an employer planned to train one apprentice, or no more than a few.

Outreach Strategies

Customization can assist with reaching both potential apprentices and employers. For example:

- ▶ The IEC developed marketing materials that could be tailored for use by each local chapter. In addition, local IEC chapters designed specific outreach approaches for in-person events. For example, a younger tradesperson was included in the team attending high school career fairs while a female representative participated in job fairs targeting women. One chapter sponsored Skills USA competitions, which also provided an opportunity to recruit top technical students.

- ▶ C-NEST partner, ImagineSolar, expanded its post-training job development strategies by implementing an employer outreach program that utilized LinkedIn and Facebook social media.

Flexibility – Program Location and Eligibility

As implementation continued, several projects made changes that emphasized the importance of flexibility with regard to program location and participant eligibility. For example:

- ▶ C-NEST started as a training program with co-location by two of the three project sponsors. The eligible population was expanded and training was later made available for a five-state region.
- ▶ The IEC's distance-learning program was made available across all Texas chapters. The 12 chapters worked together to ensure areas of the state not covered by a chapter had access to the training.
- ▶ Many employers in the HIT field have a virtual workforce, with employees completing much of their work remotely via computers over the internet. In the electrical and solar energy fields, employees are often working away from their home base. The availability of distance- or blended-delivery models offers a way to provide training that may not be accessible through a classroom-only format.

Flexibility – Program Content

While occupational specifications for a registered apprenticeship program are approved by the DOL, program components may be added in order to better serve employers and apprentices or in response to changing economic conditions. Several examples were documented for the projects under review:

- ▶ The CHW apprenticeship program includes 140 hours of supplemental training that allow for movement into other healthcare fields or additional specializations (e.g., diabetes, asthma). During the pilot period, the program sponsor received federal funding for a multi-year Primary Care Integration Project. Work is under way to develop and pilot test a behavioral health component that will be added to the core curriculum.
- ▶ Richland College, the primary educational partner for the HIT program, served as a member of the national consortium of community colleges that supported HIT curriculum development. Richland customized the nationally developed curriculum, developing a track of classes to meet the needs of regional employers.
- ▶ For the C-NEST project, a solar technical sales course was added to enhance participants' skill sets and employability. In addition, ImagineSolar partnered with the North American Board of Certified Energy Practitioners (NABCEP) to pilot the first Alternative Experience Pathway program, which allowed incumbent electricians to fulfill all installation experience requirements for the NABCEP PV Installation Professional Certification exam.
- ▶ The IEC's pre-apprenticeship curriculum addresses employability skills, Occupational Health and Safety Administration requirements, and math designed to facilitate participants' transition into IEC registered apprenticeship programs. A green job component may be added, which would expand the modular curriculum to 320 hours.

Flexibility – Delivery Methods and Schedule

Two projects had registered apprentices in training during the review period. They demonstrated a high degree of flexibility for delivery methods and scheduling options, both in terms of the original project design and during subsequent modifications. For example:

- ▶ After implementation, it was determined that C-NEST participants' needs would be better met by taking courses in a modular format rather than taking all courses in the training roadmap. The range of individuals served varied from those with little education and work experience through degreed professionals.
- ▶ The majority of the participants served under the C-NEST grant were incumbent workers who were working full-time jobs, and found it difficult to attend and complete traditional classroom training. The training model was modified from a classroom approach to one that combined classroom and live, online delivery.

Project partner, ImagineSolar, also created a blended-delivery platform to be able to deliver training to joint apprenticeship training committees throughout Texas and four other states. This format utilized on-site, online, and videoconferencing components. It included on-site labs for hands-on training, online material to cover all subject matter, and two-way full video conferencing to maintain class cohesiveness and interactivity between instructors and students.

- ▶ The IEC's distance-learning model combined live webcasting with hands-on training, providing flexibility to both contractors and apprentices. Based on early experiences, it appears smaller class sizes will ensure a better learning experience. In addition, program start dates may be modified to accommodate more apprentices.

Industry Certification

Registered apprenticeship programs provide the opportunity to earn a wage while training to obtain a credential(s). Upon program completion, registered apprentices receive a DOL-issued certificate that serves as national industry certification and is portable to anywhere in the U.S.

Apprentices may have the opportunity to simultaneously obtain secondary and/or postsecondary degrees or to qualify for or obtain credentials from other recognized organizations such as:

- ▶ CHWs are certified by the Texas Department of State Health Services and are subject to biannual renewal requirements.
- ▶ Following successful completion of the HIT program, participants could seek certification by the American Health Information Management Association.
- ▶ The C-NEST program provided the opportunity to earn credentials such as OSHA 10 certification and NABCEP Entry Level and/or PV Installer certification.
- ▶ Apprentices who satisfactorily complete the IEC's program requirements are certified by the Apprenticeship and Training Committee that sponsors, supervises, and regulates the program in accordance with federal and state requirements.

Feedback and Follow-Up Mechanisms

Based on their implementation status, projects had instituted or planned to incorporate formal and informal feedback mechanisms. Such processes support continuous improvement by providing valuable insights from employers, apprentices, and trainers. To improve program effectiveness, program sponsors may gather information at all project stages and, if appropriate and feasible, modify one or more program aspects to better meet stakeholders' needs.

Concluding Comments

The original intent of the Texas Workforce Investment Council's (Council) apprenticeship initiative was for the apprenticeship project leadership team to prepare recommendations to the Council's Executive Committee regarding replication of successful pilots. This final project report includes information on lessons learned and promising practices identified during the review period. It will be distributed to leadership team members and to lead staff of the pilot and demonstration projects.

Future workforce planning efforts can be informed by the key lessons learned:

- ▶ *Power of the partnership* – To meet employers' need for skilled workers, it is critical to develop and enhance partnerships during all project phases and at all applicable levels (e.g., local, regional, state, national). Employer input during the design and delivery phases increases buy-in, assists with curriculum development and customization to better meet skills needs, and may increase opportunities for additional assistance through mentoring or other support activities.
- ▶ *Build on prior success* – Where appropriate, it may be beneficial and efficient to refine and use existing curricula and incorporate support systems (e.g., mentoring, study guides) and supplemental training options (e.g., CHW modules that allow movement into specialty areas or other healthcare fields, C-NEST's sales component). Such strategies can shorten start-up time, provide savings given limited staff and financial resources, and allow for local or regional customization.
- ▶ *Focus on flexibility* – Flexibility is allowed and encouraged under the revised apprenticeship regulations. The projects demonstrated flexibility in multiple ways including through the expansion of eligibility criteria and service-delivery areas, through incorporation of modular training formats and scheduling options, and by the use of distance- and blended-delivery methods.
- ▶ *Seek funding* – Employers are responsible for payment of apprentice wages, including incremental pay increases. However, as demonstrated by the C-NEST and HIT projects, grant funding may be available and used to support development of new initiatives. CHW is an evolving field with increasing grant opportunities.
- ▶ *Change with the times* – Today's workforce must be increasingly mobile or willing to work remotely online, whether in newer industries or in more traditional trade occupations. Training, especially in a longer-term format, must be accessible and address the needs of both employers and participants. Current technology provides a range of options to support online, including live, training. Use of real world examples helps apprentices to be better prepared for current and future job opportunities and thus, more valued by employers.
- ▶ *Continue to educate* – Formal awards, such as the DOL's recognition of the CHW program sponsor as a *Registered Apprenticeship Innovator and Trailblazer* and the National Governors Association's recognition of C-NEST as a promising practice, provide the opportunity to inform and educate national stakeholder groups about apprenticeship and its application in various fields. Equally important is information sharing at the grassroots level, through work with employers, educational partners, community groups, and other stakeholders.

As with any program or delivery method, availability of funding and other required resources is essential. Ongoing education of potential partners is essential to increase familiarity with the registered apprenticeship model including options for adaptability and flexibility such as those demonstrated by the projects studied by the Council.

There is ample opportunity for future growth, through the addition of flexible delivery strategies and by incorporating registered apprenticeship in industries that have not historically used this model. As noted by a leadership team member, many healthcare occupations approximate apprenticeship due to a high degree of learning on the job. As awareness grows, use of the apprenticeship model could increase significantly over the next 10 to 15 years.

If Texas were to face a potential shortage of workers in middle-skill occupations, registered apprenticeship could be considered as a strategy to address employer demand for skilled workers. Due to the program's inherent longer-term nature, it is not viable for all training needs, but provides employers with a proven method of obtaining and fostering qualified workers. The increased flexibility of this earn-while-you-learn model can be used to successfully grow the workforce of today and tomorrow.

Appendixes

Appendix A – Promising Practices

The promising practice summaries are Council products, not reports from the project teams. They can be used as stand-alone reports and all are included in this final report.

	Page
Community Health Worker: New Apprenticeable Occupation	A2
Building and Strengthening Educational Partnerships	A7
Serving New and Incumbent Workers	A11
Registered Apprenticeship: Distance Learning	A17

Appendix B – Process Flow

This appendix includes an overview and process map for the Council's apprenticeship initiative. Sample copies of several supporting documents and tools are also provided.

	Page
PowerPoint Overview and Process Map	B2
Supporting Documents/Process Tools	B13
1. <i>Advancing Texas'</i> Action Plan P2 – Apprenticeship	B13
2. Apprenticeship Project Leadership Team – Member Roles and Contributions	B14
3. Potential Pilot Project Checklist	B15
4. Pilot Project Action Plan Template	B17
5. Pilot Project Quarterly Report Template	B19
6. <i>Quarterly Update</i> Sample [June 2013]	B21

Appendix A

Promising Practices



Community Health Worker: New Apprenticable Occupation

Strategic Intent

In 2008, the U.S. Department of Labor (DOL) approved revisions to the federal apprenticeship regulations that offer additional flexibility, enabling a wider variety of industries and occupations to use the registered apprenticeship model. Under the revised regulations, an individual apprenticeship may be measured either through the completion of the industry standard for on-the-job learning (at least 2,000 hours) (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach).¹

Employment demand for community health workers (CHW) is expected to increase significantly over the decade at the state level and nationally. CHWs are frontline public health workers who serve as liaisons between underserved communities and healthcare and social service providers. Demand is projected to increase due to the healthcare provider shortage and the need for cost containment and culturally appropriate personnel. The table at left presents the projected need for CHWs due to growth and replacement through 2020.

Data Sets for Community Health Workers	
U.S. – Job openings due to growth and replacement needs, 2010-2020 Percent change	5,260 22%
Texas – Job openings due to growth and replacement needs, 2010-2020 Percent change	180 21%
U.S. median wage, 2012 Hourly Yearly	\$16.64 \$34,600
Texas median wage, 2012 Hourly Yearly	\$16.23 \$33,800

SOURCES: Data for Standard Occupational Classification Code (SOC) 21-094 – Community Health Workers² as of 7/19/13. U.S. Bureau of Labor Statistics (www.bls.gov and www.careerinfonet.org).

Area Health Education Centers (AHEC) are regionally focused academic and community partnerships, working to develop a quality health workforce and to provide access to healthcare in underserved areas. Texas AHEC East (txaheceast.org), one of three AHECs in Texas, is composed of nine regional offices that serve 111 counties and over 18 million people. The Texas AHEC East Coastal Region (Coastal Region, www.cahectx.org) is implementing registered apprenticeship as a means of

creating a replicable training model for consistent, quality instruction to CHWs, coupled with on-the-job learning.

The CHW project is one of several identified by the Texas Workforce Investment Council (Council) for study. This paper provides an overview of the project, with emphasis on the process for obtaining approval as a new apprenticeship occupation and assignment of a new SOC code, as well as a description of the CHW model.

Program Overview

Senate Bill 1051 (77th Legislature) charged the Texas Department of State Health Services (DSHS) with development of a training and certification program for CHWs, also known as promotores. The Coastal Region is certified by DSHS as a CHW training institution. The Coastal Region provides the required 160-hour CHW curriculum and continuing education for both CHWs and instructors. Participants work in the field while in training, and are classified as trainees until completing the required curriculum and receiving their certification.

Based on the Coastal Region's submission, DOL approved the CHW as a new apprenticeship occupation in July 2010. The apprenticeship program includes 2,000 to 2,200 hours of



¹ *Federal Register*, Vol. 73, No. 210, Wednesday, October 29, 2008, p. 64428: §29.5(b)(2).

² Community Health Worker was initially approved as an apprenticeship occupation under SOC code 21-1091 – Health Educators, and assigned code 21-094 as part of the 2010 revision to the SOC system. Employment trends data are included in the trends data for 21-099 – Community and Social Service Specialists, All Other. Wage data exclude 21-091 – Health Educators.

on-the-job learning and up to 300 hours of classroom instruction, including 160 hours focusing on eight core competencies required by the state and 140 hours of supplemental training that allow for movement into other healthcare fields or additional specializations (e.g., diabetes, asthma).

In August 2012, DOL held a summit to celebrate the 75th anniversary of the National Apprenticeship Act. Texas AHEC East was honored as a *Registered Apprenticeship Innovator and Trailblazer* for implementing a statewide CHW training and certification methodology.

Tool/Process Documentation

U.S. DOL Apprenticeship 75th Anniversary Summit fact sheet, *Apprenticeship Innovator and Trailblazer: Texas Area Health Education Center* (August 1, 2013)

The AHEC has presented the CHW apprenticeship model at multiple events sponsored by DOL and other states. DOL and the U.S. Department of Health and Human Services held webinars for the workforce and AHEC systems, presenting opportunities for collaboration and apprenticeship as an option for CHW and other health professions.

Tool/Process Documentation

- ▶ PowerPoint presentation for use with groups in Texas and other states, *Advancing Texas through Registered Apprenticeship: Community Health Worker Apprenticeship* (March 2012)
- ▶ Joint webinar with U.S. DOL Office of Apprenticeship, *Approaches for Successful Implementation of a Community Health Worker Registered Apprenticeship Program* (March 1, 2011)
 - Archived recording
 - PowerPoint presentation
 - Q&A transcript

Registered Apprenticeship in the U.S.

Registered Apprenticeship programs are a written plan designed to move an apprentice from a low- or no-skill entry-level position to full occupational proficiency. Programs must meet parameters established under the National Apprenticeship Act that are designed to protect the welfare of the apprentice.

The act and its related regulations are administered by DOL’s Office of Apprenticeship or, if applicable, a State Apprenticeship Agency approved by the secretary of labor. Texas programs are subject to DOL administration.



Registered apprenticeship programs are sponsored by an individual business or an employer association and may be partnered with a labor organization through a collective bargaining agreement. After completing the training program, an apprentice earns a “Completion of Registered Apprenticeship” certificate, an industry-issued, nationally recognized credential that validates proficiency in the occupation.

Program sponsors identify the minimum qualifications to apply into their apprenticeship program. The eligible starting age can be no less than 16 years of age; however, individuals usually must be 18 to be an apprentice in hazardous occupations. Program sponsors may also identify additional minimum qualifications and credentials to apply such as education, the ability to physically perform the essential functions of the occupation, and proof of age. Based on the sponsor’s selection method, additional qualification standards, such as fair aptitude tests and interviews, school grades, and previous work experience, may be identified.

Key apprenticeship program requirements include: employment and training of the apprentice in a skilled occupation; identified term of apprenticeship, delivery type (i.e., time-based, competency-based, hybrid); outline of the work processes in which apprentices will receive supervised work experience; provision for organized academic instruction in subjects related to the occupation; progressive wage schedule; and periodic performance review and evaluation.

Apprenticeability Determination

As the approving entity for registered apprenticeship programs, DOL specifies the guidelines for apprenticeability determination and occupational code assignment requests. DOL field staff assist the program sponsor in developing the occupational specifications for submission and consideration. Applications include:

- occupation/job description (e.g., what the worker does, how work is performed, and skills involved);

- outline of the work processes in which apprentices will receive training, including the approximate time to be spent in each major process;
- outline of the recommended related instruction;
- list of employer and/or labor organizations that support apprenticeability of the occupation; and
- detailed request for assignment of an occupational code.

Based on the Coastal Region's submission, DOL approved CHW as a new apprenticeable occupation in July 2010. CHW was initially approved as an apprenticeable occupation under SOC code 21-1091 – Health Educators, and assigned new code 21-094 as part of the 2010 revision to the SOC system.

Tool/Process Documentation

U.S. DOL Circular 2005-02, *Apprenticeability Determination Requests (April 29, 2006)* and related documents:

- ▶ *Step-by-Step Apprenticeable Occupation Request Process* (list)
- ▶ *Apprenticeability Determination Process* (process flow diagram)
- ▶ Apprenticeability Request Form
- ▶ Occupational Code Assignment Form (ETA-741)

U.S. DOL Bulletin 2010-21, *New Apprenticeable Occupation Community Health Worker (July 7, 2010)* with attachments:

- ▶ Work Process Schedule
- ▶ Related Instruction Outline

Work Process Schedule

The basic program structure for the CHW apprenticeship model, as outlined in the approved work process schedule, is presented below:

Community Health Worker Apprenticeship – One Year			
1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
On-the-Job Learning (2,000-2,200 hours)			
Core CHW Didactic Training (160 hours)		CHW Differential Training (140 hours)	

CHW apprentices receive training in the various work experiences outlined in the following table. The order is determined by the flow of work in the job and may not occur in the order listed. Times allotted to the various processes represent the average time required for an apprentice to learn each phase of the occupation and demonstrate competency. Given the broad diversity in settings and populations served, work-based learning requirements may be appropriately modified and customized to meet the unique requirements of support environments.

Work Experience Competencies	Approximate Hours (Min/Max)
Introduction to the Community Health Worker Role and Orientation to the Work Environment	
▶ Orientation to the role of the Community Health Worker	80-90
▶ Overview of specialized and technical knowledge unique to the work environment	120-150
▶ Employee and individuals' safety in the medical/community environment (some areas based on employment location)	80-90
▶ Ethical and professional practice	120-150
Development of community-based networking and advocacy (customized for specific region and employer)	
▶ Community networking	320-335
▶ Advocacy, supporting empowerment	320-335
Health Literacy (customized to employer and community needs)	320-350
Communication	320-350
Teaching and Supporting Others	320-350
Estimated Hours to Complete Competencies	2,000-2,200

Related Instruction

The basis for skills development is derived from the eight core skill and knowledge competencies adopted by the certification program and identified in the National Community Health Advisor Study (June 1998) for CHWs. Additional training is provided based on employer input and industry standards. The related training outline presented at right identifies subject matter that must be mastered by the apprentice in order to successfully complete the program. As with the work process schedule, the order may vary.

Supplemental coursework can be modified to address the special needs of the sponsoring agency while allowing the apprentice to lattice into other healthcare positions, if desired. Certified CHWs can add additional coursework to gain beneficial skills to remain a CHW or can focus on one of two tracks leading to movement into another career lattice depending on their interest, skills, and the employer's needs. By diversifying the supplemental coursework, CHWs can transition into additional healthcare training programs to promote possible growth and movement.

Related Instruction Outline	Minimum Hours
Core Competencies	
▶ Communication skills	20
▶ Interpersonal skills	20
▶ Service coordination skills	20
▶ Capacity-building skills	20
▶ Advocacy skills	20
▶ Teaching skills	20
▶ Organizational skills	20
▶ Knowledge base on specific health issues	20
Total Training Hours for Core Competencies *	160
Supplemental Course 1 – Case Management Skills	30
Supplemental Course 2 – Nutrition, Exercise, and Consumer Education	30
Supplemental Course 3	20
▶ Quality healthcare expectations	
▶ Assessing health indicators	
Supplemental Course 4	60
▶ Diabetes	
▶ Cardiovascular disease	
▶ COPD	
▶ Asthma	
▶ Vaccinations	
Total Supplemental Training	140
Total Apprentice Training Hours	300

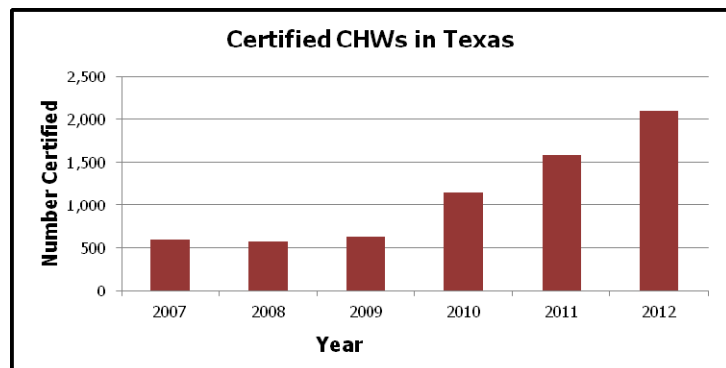
* Required coursework for CHW Certification from the Texas DSHS.

Since initial approval of the occupation, Coastal Area received federal funding for a Primary Care Integration Project. Under the multi-year project, a Behavioral Health component will be added to the core curriculum, allowing CHWs to effectively identify and address specific behavioral health issues within a primary care setting. The curriculum has been developed and is subject to final approval by the Texas DSHS and the Department of Labor. The curriculum is being piloted within the apprenticeship model in multiple primary care sites in Texas. The initial pilot year began in August 2013, with apprentices placed at primary care sites within the Coastal Region. An additional pilot year will include multi-state primary care locations.

Future Growth Potential

As of April 1, 2013, there were approximately 2,150 certified promotores or CHWs in Texas, located in 108 counties and all Health Service Regions. The use of CHWs is projected to increase statewide as the population ages and healthcare delivery models evolve.

For example, CHWs are included in multiple projects focused on health care improvements being implemented through regional healthcare partnership plans. The plans, under the state's Medicaid Transformation Waiver, are approved by the Texas Health and Human Services Commission and the federal Centers for Medicare and Medicaid Services.



Source: DSHS, 2012 Annual Report: Promotor(a) or Community Health Worker (CHW) Training and Certification Advisory Committee.

"The Community Health Worker apprenticeship program provides a means to fill an unmet need in our healthcare system. The unique ability of these healthcare workers to understand the issues and interact on a peer level with our underserved populations will be valuable as we are able to provide healthcare to a larger portion of our population."

*Lee Ogburn-Russell, Ph.D., RN
Associate Vice President, Health Professions,*

In Texas, the apprenticeship model has not traditionally been used for healthcare occupations. There is a general lack of understanding about registered apprenticeship and its potential as a training method for CHW or other healthcare occupations. In addition, CHW is a relatively new occupation with workers utilized in different ways to meet individual employer and client needs. Due to these and other factors, a major role for the Coastal Region has been to educate and share information about both the CHW occupation and the apprenticeship model, not only in Texas but through multiple other state and federal venues.

The new CHW registered apprenticeship training model has the potential to increase the quality and quantity of CHWs in Texas and other states, thereby playing an important role in meeting the growing demand for providing cost-effective and value-added assistance to underserved populations.



Building and Strengthening Educational Partnerships

Strategic Intent

In 2008, the U.S. Department of Labor (DOL) approved revisions to the federal apprenticeship regulations that offer additional flexibility, enabling a wider variety of industries and occupations to use the registered apprenticeship model. Under the revised regulations, an individual apprenticeship may be measured either through the completion of the industry standard for on-the-job learning (at least 2,000 hours) (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach).³

Employment demand for medical records and health information technicians is expected to increase significantly over the next several years. The demand for these skilled workers is being driven in large part by the timetable established by the U.S. Department of Health and Human Services (HHS) for implementation of the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH).

In April 2010, HHS announced \$267 million in grant awards to 28 additional nonprofit organizations to establish Health Information Technology (HIT) Regional Extension Centers. Funded by the American Recovery and Reinvestment Act of 2009, the grants were intended to support the growing HIT industry, which is expected to employ thousands of healthcare workers, including Information Technology (IT) technicians and trainers. As noted in the table at right, medical records and HIT jobs are projected to increase faster than average, rising 21 percent by 2020.

The HIT project is one of several identified by the Texas Workforce Investment Council (Council) for study. This paper documents the project's efforts to build and strengthen educational partnerships as a promising practice. It contains an overview of related work by and with Richland College of the Dallas County Community College District and Texas State University, as well as general information about the project and lessons learned during the pilot period.

Quick Facts: Medical Records and Health Information Technicians	
2010 Median Pay	\$32,350 per year \$15.55 per hour
Entry-Level Education	Postsecondary non-degree award
Work Experience in a Related Occupation	None
On-the-job Training	None
Number of Jobs, 2010	179,500
Job Outlook, 2010-20	21% (faster than average)
Employment Change, 2010-20	37,700

SOURCE: Medical Records and Health Information Technicians as of 6/25/13: U.S. Bureau of Labor Statistics (www.bls.gov). [Standard Occupational Classification code 29-2071]

Project Goals

HHS designated the Dallas-Fort Worth Hospital Council Education and Research Foundation (Foundation) as the North Texas Regional Extension Center (NTREC, www.ntrec.org/). With a two-year federal grant of almost \$8.5 million, NTREC assists primary care providers to achieve "meaningful use"⁴ of electronic health records through HIT workforce development. The federal grant was extended through 2014 for a four-year total of \$9.4 million, but will be terminated early due to federal budget cuts.

Specified goals included:

- Engage at least two employers participating by the completion of the pilot project.
- Train at least 16 apprentices by completion of the pilot project.

³ *Federal Register*, Vol. 73, No. 210, Wednesday, October 29, 2008, p. 64428: §29.5(b)(2).

⁴ Meaningful use – set of standards defined by the Centers for Medicare & Medicaid Services Incentive Programs that governs the use of electronic health records and allows eligible providers and hospitals to earn incentive payments by meeting specific criteria.

Program Overview

The NTREC planned to facilitate DOL-registered apprenticeships with participating vendors, HIT consulting firms, and healthcare providers in the North Texas region. By utilizing IT occupations with existing DOL approval, the program was to allow for immediate entry of new employees into the HIT workforce in order to meet regional needs.

Employers and educational institutions were involved in the development and implementation planning of a work process that included on-the-job training, related instruction through classroom or distance-/computer-based learning, mentoring, incremental wage increases, and a portable, nationally recognized credential. Occupations included: IT Generalist-Implementation Support Specialist and Technical/Software Support Staff, Database Technician – Practice Workflow Specialist, IT Project Manager-Practice Workflow & Information Management Redesign Specialist, and Implementation Manager.



Project Resources

The primary focus of the Foundation's federal grant was not workforce development, but rather to offset physician and provider costs associated with electronic health record implementation. From those funds, \$175,000 was used to finance an apprenticeship pilot for two years, including an investment of \$10,000 per apprentice.

Resources for the pilot included NTREC staff support as program sponsors, and funding to employer partners for job site mentors and apprentice wages.

Certification Option

Following successful completion of training, participants would be able to seek HIT certification by the American Health Information Management Association (AHIMA).

Educational Partnerships

Educational partnerships were developed to support the planned apprenticeship pilot. The partnerships supported the overall goal of developing regional HIT workforce capacity. Due to the aggressive timeline and a rapidly changing industry, the planned apprenticeship initiative was not implemented as originally planned. However, the value of strong educational partnerships, in general, is noted as a promising practice. The work accomplished by project representatives and the educational partners will support the overall growth and evolution of the industry.

Richland College – Dallas County Community College District

Richland College was identified as the primary educational partner for the HIT apprenticeship initiative. The school currently offers HIT programs in an intensive, online continuing education format. Upon program completion, graduates are expected to sit for the national competency exam developed by the AHIMA.



Graduates are expected to be qualified to support the adoption and implementation of electronic health records, information exchange across healthcare providers and public health authorities, and the redesign of workflows within healthcare settings to gain quality and efficiency benefits. Employment opportunities exist with healthcare institutions, physician offices, and vendors of electronic health records.

Richland College played several key roles related to HIT and the apprenticeship initiative, including:

- *Project Advisory Committee* – Richland College served on the project advisory committee, joining area employers and NTREC project representatives.
- *National Consortium Member* – The college was part of the regional Community College Consortia Program, composed of 82 member community colleges representing all 50 states. This program was created by the Office of the National Coordinator for Health Information Technology (ONC). Located within HHS' Office of the

Secretary, the ONC is the principal federal entity charged with coordination of nationwide efforts to implement and use the most advanced HIT and the electronic exchange of health information. To help meet the growing demand, ONC funded the Workforce Development Program with the goal of training a new workforce of skilled HIT professionals to help providers implement electronic health records and to achieve meaningful use.



The Curriculum Development Centers Program, one component of the ONC Workforce Development Program, provided funding to higher education institutions (or consortia thereof) to support HIT curriculum development. Materials developed under this program have been used by members of the consortia and made available to institutions of higher education across the country.

Consortia members received federal grant funds to develop or improve non-degree HIT training programs that can be completed in six months or less. The programs are designed for professionals with an IT or healthcare background and focus on training students for the following professional roles: practice workflow and information management redesign specialists, clinician/practitioner consultants, implementation support specialists, implementation managers, technical/software support, and trainers.

- *Curriculum Customization* – Richland College customized the nationally developed curriculum, developing a track of classes to meet the needs of NTREC’s employer partners. After completion, participants would be able to seek AHIMA certification.
- *Apprentice Pipeline* – The college’s HIT program created a natural pipeline of potential candidates for the planned apprenticeship initiative.

Texas State University



During the project period, the NTREC project team had the opportunity to partner with Texas State University (TSU) on a related grant project. Funded by a Wagner-Peyser grant, the Texas Health Information Technology Workforce Development project was designed to better understand HIT workforce needs and educational opportunities across the state of Texas.

NTREC’s workforce center director served on the project’s Executive Committee which also included the executive directors of three local workforce boards, representatives from Area Health Education Centers, postsecondary education, health-related associations, and other stakeholders.

Project deliverables included:

- *HIT Education Inventory* – An inventory of postsecondary and continuing education training options at educational institutions in Texas which offer HIT-related degrees and certifications was created. It is accessible at <http://www.health.txstate.edu/him/TxHIT-workforce/education.html>.
- *Needs Assessment* – An online survey was conducted with healthcare providers and non-providers (e.g., private associations that offer support to physicians) to obtain information about projected demand for workers, job competencies, and perceived barriers to a well-qualified workforce. Prior to the survey, employer focus groups were held to document preliminary skill classification levels. Results, as published in *Texas Health Information Technology: Employer Needs Assessment Report* (February 3, 2012), illustrate the rapidly shifting nature of HIT workforce needs.
- *Long-Term Educational Plan* – Also published in 2012, the *Texas Health Information Technology Project: Long-Term Educational Plan* provides a data-based analysis of current HIT employer needs, competencies, curricula, and training capabilities developed since the passage of the 2009 HITECH Act. As noted earlier, the exponential growth of the HIT industry and widespread adoption of electronic health records resulting from this

Tool/Process Documentation
▶ <i>Texas Health Information Technology: Employer Needs Assessment Report</i> (February 3, 2012)
▶ <i>Texas Health Information Technology Project: Long-Term Educational Plan</i> (July 2012)

legislation have driven the sudden increased need for HIT workers. While there are resources available to address the demand, the need for greater coordination and collaboration by stakeholders was stressed.

TSU received two years of Wagner-Peyser funding and requested a third to develop dual-credit program offerings and career-pathway models. The request for additional funding was pending as of June 2013.

Lessons Learned

Early lessons learned include:

- *Project Scope and Timeline* – As noted earlier, the planned apprenticeship initiative was a small component of the overall work of the NTREC. The aggressive timeline, a rapidly changing industry, and early termination of grant funding created further challenges.
- *Partner Relationships* – Relationships were developed with regional employers, community colleges, universities, and other community partners to leverage training opportunities funded by the federal grant for HIT training. By establishing or building on existing relationships, partners became more knowledgeable of resources available for training the workforce for this new employment area.
- *Employer Engagement and Program Design* – Early and sustained employer involvement is critical to the success of registered apprenticeships. Given the immediate demand, most HIT employers had expectations for shorter-term “internship” programs that could be used as a bridge to employment for students. The structure and inherent longer-term nature of registered apprenticeships made it more difficult. In addition, the evolving skill requirements made it hard to find a good match for occupations currently approved by DOL for registered apprenticeships. Other regional extension centers indicated they had encountered similar experiences.
- *Work Site Locations* – Much of the work in the HIT industry occurs remotely, with employees working from home offices and traveling to clients as needed. The virtual work environment made it difficult to facilitate the traditional DOL apprenticeship model. In addition, many employers had central offices outside of the North Texas region, making it challenging to provide ongoing supervision of apprentices.

The HIT industry changed a great deal over the project period and continues to do so given the development of available technology, how the technology is being used, and the skills needed to implement and use electronic medical records in the healthcare industry. However, the work conducted in collaboration with educational partners will support the overall growth and evolution of the industry, and reinforces the importance of building and strengthening educational partnerships.



Serving New and Incumbent Workers



Strategic Intent

In 2008, the U.S. Department of Labor (DOL) approved revisions to the federal apprenticeship regulations that offer additional flexibility, enabling a wider variety of industries and occupations to use the registered apprenticeship model. Under the revised regulations, an individual apprenticeship may be measured either through the completion of the industry standard for on-the-job learning (at least 2,000 hours) (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach).⁵

Data Sets	Solar PV Installers	Electricians
U.S. – Job openings due to growth and replacement needs, 2010-2020	2,320	28,920
Percent change	18%	23%
Texas – Job openings due to growth and replacement needs, 2010-2020	90	2,230
Percent change	13%	17%
U.S. median wage, 2012		
Hourly	\$18.22	\$23.96
Yearly	\$37,900	\$49,840
Texas median wage, 2012		
Hourly	<i>Not available</i>	\$20.15
Yearly		\$41,900

SOURCES: Data for SOC codes 47-2231 – Solar Photovoltaic Installers⁶ and 47-2111 – Electricians as of 7/19/13. U.S. Bureau of Labor Statistics (www.bls.gov and www.careerinfonet.org).

Employment demand for solar photovoltaic (PV) installers and electricians is expected to increase at the state level and nationally. The table at left presents the projected need for both occupations through 2020. Solar PV Installer was added to the Standard Occupational Classification (SOC) in 2010; therefore, limited data are available. Data for electricians are included as Texas requires that all electrical work including installation of solar PV systems be performed by a licensed electrician.⁷ PV refers to technology using solar panels to convert sunlight to electricity.

The Austin Electrical Joint Apprenticeship Training Committee (AEJATC, www.ibew520.org), ImagineSolar (imagesolar.com), and Workforce Solutions Capital Area (Capital Area, www.wfscapitalarea.com) formed a unique partnership to develop a ready supply of well-trained workers. The Comprehensive-National Electrician Solar Training (C-NEST) project is one of several identified by the Texas Workforce Investment Council (Council) for study. C-NEST was designed to train new and current electrical workers for residential, commercial, and utility-scale solar PV technology construction projects.

This paper documents the project’s strategies for serving both new and incumbent workers as a promising practice. It contains an overview of programmatic and administrative elements, focusing on ways in which the project was adapted and expanded in response to the needs of employers, as well as current and prospective participants’ needs.

Project Overview

In 2009, DOL announced plans to distribute approximately \$100 million in green jobs training grants through the American Recovery and Reinvestment Act. In January 2010, the AEJATC, working in partnership with Capital Area and ImagineSolar, was awarded over \$4.8 million for its project. C-NEST was designed as a demonstration of regional collaboration and partnership in conducting residential, commercial, and utility solar electrical training on a large scale.

⁵ *Federal Register*, Vol. 73, No. 210, Wednesday, October 29, 2008, p. 64428: §29.5(b)(2).

⁶ Employment trends data are included in the trends data for 47-4099 – Construction and Related Workers, All Other. Wage data exclude solar thermal installers included in 47-2152 – Plumbers, Pipefitters, and Steamfitters and solar PV electricians included in 47-2111 – Electricians.

⁷ Texas Occupations Code §1305.151.

The National Governors Association recognized C-NEST as a promising practice. The Capital Area local board received the National Association of Workforce Boards' *2012 Workforce Investment Board Grand Prize*, in part for its efforts with the project.

Project Partners

Under the terms of DOL's solicitation for grant applications, only AEJATC was eligible to serve as the grantee. However, prior working relationships with ImagineSolar and Capital Area created a solid foundation and all three project partners wanted to share responsibility equally. They worked together to complete the grant application and were successful due to clearly defined roles that were outlined in a partnership agreement, frequent communication including weekly meetings, and the willingness to evolve as implementation proceeded.

- *AEJATC* – AEJATC, the DOL grantee, provided the program facilities. AEJATC was also responsible for member outreach, program eligibility, scheduling and providing training for the electrical courses, reviewing and approving invoices, and other project coordination activities.

Established in 1945, the AEJATC program is jointly sponsored by the Central Texas Chapter of the National Electrical Contractors Association (NECA) and International Brotherhood of Electrical Workers (IBEW) Local Union 520. It provides Austin and central Texas with trained and educated electricians through options such as a DOL-registered apprenticeship program and continuing education required for Texas' license renewal.

- *ImagineSolar* – ImagineSolar provided solar electrical training, proctored exams, and managed student attendance and course completion tracking. Early in the grant period, ImagineSolar specified the equipment and supplies needed to provide the training and were responsible for securing bids from manufacturers and vendors for the procurement process. As participants completed training, ImagineSolar took the lead in providing job development services, implementing an Employer Outreach Program that utilized LinkedIn and Facebook social media.

Founded in 2002, ImagineSolar is the first licensed solar and smart grid school in Texas. The for-profit company offers over 200 hours of courses and workshops as well as project consulting, workforce training, and custom courses for corporate clients. It is licensed by the Texas Workforce Commission, approved by the Texas Department of Licensing and Regulation as a continuing education provider, and is an approved North American Board of Certified Energy Practitioners (NABCEP) proctor for the NABCEP Entry Level Exam as well as NABCEP's Alternative Experience Pathway (AEP) for electricians.

- *Capital Area* – Capital Area served as the administrative and fiscal agent for the C-NEST project. This arrangement allowed the AEJATC and ImagineSolar to focus on outreach and training. Capital Area also managed the procurement process, and assisted with outreach and with connecting trainees to employment.

Serving Austin and Travis County, Capital Area is one of 28 local workforce boards in Texas. Local boards are the leadership and governing bodies for the state's regional workforce system, with responsibility for planning, oversight, and evaluation of workforce development activities in their respective area.

Program Design and Modifications

A significant strength of the project was the way in which the partners adapted and modified the program over the grant period. Connecting unemployed program graduates who were new to the industry and seeking entry-level positions to employment was a challenge. A utility-scale PV project planned for the central Texas area was not awarded to NECA contractors as anticipated. This, and other changing labor market conditions in the service area, resulted in the employment opportunities being below projections for entry-level solar installers without any previous industry experience.

In addition, the nature of the jobs, the start-stop cycle typical of construction projects, and frequent changes of work sites that sometimes require travel, did not always coincide with the type of employment that trainees were seeking. Changes were made to address this challenge, to enable service provision across the five-state area, and to better meet the needs of potential participant groups including new apprentices, incumbent workers with different skill sets and training needs, and program exiters who returned for additional training.

Co-Location and Courses

AEJATC entered into partnership with ImagineSolar in early 2009, prior to applying for or receiving the DOL grant. ImagineSolar designed and implemented a training program to prepare IBEW members and NECA contractors to be a competitive qualified workforce in the solar PV industry. In return, AEJATC allowed ImagineSolar to use its training facility to conduct training for the general public and for union members.

Upon receiving the DOL grant, funds were used to establish a state-of-the-art training facility that could be used after the grant period ended. The co-location of ImagineSolar in the AEJATC training center resulted in the rapid ramp up of training and facilitated mid-project modifications. Proximity allowed for daily communication, regular participation in meetings, and timely decision making. It also proved necessary given the scope of the training roadmap and the large geographic service area. Courses included:

- *Electrical training (IBEW) –*

- Electrical Code
- OSHA 10
- Safety
- First Aid/CPR
- Code of Excellence

- *PV solar training (ImagineSolar) –*

- PV System Design and Installation
- Utility-Scale PV System Design and Installation
- Advanced PV System Design and NABCEP Prep
- Advanced PV System Technologies (formerly Advanced PV System Installation)
- Project Field Experience
- Solar PV Economics and Technical Sales
- Smart Grid and Distributed Generation

"I really liked the way we were introduced to the science of solar power in that we covered mathematics, theory, electrical calculation brush up, solar system layout pertaining to the earth and the sun, the advances in solar power. The breaking up into groups to perform the different phases of installation, calculations, and equipment introduction was an excellent idea."

*Tino Vasquez, Vice President
Scott Electric Company, Corpus Christi*

Marketing and Employer Engagement

Outreach was conducted through Capital Area's one-stop workforce centers, community-based organizations, veterans' representatives, IBEW, and the NECA. Information was provided online; however, the most successful strategies included face-to-face meetings and phone conversations. Strategies included:

- *Participant outreach –*

- Developing and distributing flyers.
- Publishing information in the IBEW newsletter and on the website, and making presentations at IBEW meetings.
- Presenting at job fairs.
- Contacting or visiting other local unions in the IBEW 7th District to further expand the recruitment pool.
- Setting up a call bank to answer questions about the training program.
- Sponsoring open house and tour of the training facility.

Tool/Process Documentation

- ▶ *Energize Your Future!* flyer
- ▶ *Employer Outreach Program* flyer

- *Employer outreach* –

- Conducting facility tours and distributing information packets.
- Establishing and fostering long-term relationships with human resources contacts.
- Utilizing social networking sites such as LinkedIn, allowing employers to view alumni resumes and training information.

Eligibility and Service Area

The original goal was to train approximately 1,000 new apprentices and incumbent electrical workers for the growing solar renewable energy sector in central Texas. The service area covered 17 counties in central Texas but also included a train-the-trainer model for up to 50 trainers from other JATCs in the IBEW 7th District, a five-state area covering Arizona, Kansas, New Mexico, Oklahoma, and Texas.

DOL approved a grant modification allowing on-site training by certified instructors and participant access to equipment for hands-on activities in the expanded five-state area. The grant was later extended to mid-July 2012. This made the program available for any IBEW incumbent electrician in the 7th District. Over the period, C-NEST partners collaborated with staff and trainers from 12 training centers in the district's five-state area.

Flexible Schedule and Delivery Methods

Over the project period, course schedules and delivery methods were revised to meet the needs of incumbent workers. Night and weekend classes were made available, including online training options. Hands-on training was conducted indoors, outdoors, and on the roof of the 4,000 square-foot training facility. Classroom education took place at the facility and through ImagineSolar Online.

The proposed training plan included a series of courses designed to provide participants with the skills needed to work as solar PV installers. After submitting the grant application, changes to both participant and employer needs necessitated modifications to the original training strategy. Increased flexibility was also required due to the varied background of C-NEST participants and the range of job requirements in the solar and smart grid industries. Key changes included:

- *Modular format* – After implementation, it was determined that participants' needs would be better met by taking courses in a modular format rather than taking all courses included in the roadmap. The range of individuals served varied from those with little education and work experience through degreed professionals.

For many participants, the employment goal was not a PV installer position; however, their acquired skills could be used to pursue other occupations in the renewable energy sector. For these participants, the modular course format best met their needs and those of prospective employers.

- *Blended training platform* – The majority of the participants served under the grant were incumbent workers that were working full-time jobs, making it difficult to attend and complete traditional classroom training. The training delivery model was altered from a classroom approach to one that combined classroom and online delivery. This change provided participants greater convenience and flexibility for accessing courses.

ImagineSolar also created the blended training delivery platform to be able to deliver training to joint apprenticeship training committees throughout Texas and the other four states. This format utilized onsite, online, and online LIVE components. It combined all the elements of a comprehensive training program including onsite labs for hands-on training, online material to cover all subject matter, and two-way full video conferencing to maintain class cohesiveness and interactivity between the instructors and the students.



- *Solar technical sales course* – A solar technical sales course was added to enhance participants' skill sets and employability. The course covers aspects of the NABCEP PV Technical Sales Job Task Analysis, as well as the best business practices used by the industry's most successful professionals and companies.

Industry Certification and NABCEP Pilot

Training available through the grant allowed participants to earn recognition from the solar and construction industries. Those who completed the foundation PV solar training were eligible to sit for the NABCEP Entry Level Exam. This exam is intended for individuals wanting to get into the solar field and when passed, demonstrates knowledge of the fundamental principles of the design, installation, and operation of PV systems.

During the grant period, staff encouraged participants to sit for the NABCEP Entry Level Exam to gain familiarity with the NABCEP testing procedures and methodology. The goal was to help them prepare for NABCEP PV



Installation Professional Certification exam. However, many of the incumbent electrician participants were not interested in sitting for the entry exam since it is not a prerequisite for the higher-level exam.

ImagineSolar partnered with NABCEP to pilot the first AEP program, which allowed incumbent electricians to fulfill all installation experience requirements for the NABCEP PV Installation Professional Certification exam. Originally, the C-NEST program would only provide partial experience credit.

After completing 128 contact hours of training, participants took a proctored practicum exam that included two actual PV installations. Each installation took two to three days and

included design verification, safety planning, site assessment, project planning, and inspection. Up to four journeymen or master electricians worked as a team, with each earning installation credit. Once participants passed the practicum exam, they were able to sit for the NABCEP certification exam, which is offered twice a year.

Since the pilot program began in June 2010, 65 electricians from the C-NEST program have fulfilled requirements necessary to take the certification exam. Eight C-NEST graduates took and passed the exam in September 2010, representing 10 percent of NABCEP-certified workers in Texas. Another 15 trainees took the exam in March 2011, with 50 percent passing compared to the national pass rate of approximately 25 percent. The certification expands employment opportunities for AEP graduates as it is increasingly required on proposals and job descriptions.

" ... thank all of the instructors at ImagineSolar ... I can now say that I am NABCEP certified. This could not have happened without you."

*Doug Camp
Corbo Electric Company, San Antonio*

Feedback and Follow-Up Mechanisms

During the project period, satisfaction data were collected from both employers and apprentices:

- *Employer satisfaction* – NECA contractors, IBEW members, and participants referred by Capital Area participated in the C-NEST training program. Satisfaction surveys were conducted regarding the courses and follow-up discussions were also held with the NECA contractors.

ImagineSolar also conducted an Employer Outreach Program for the purpose of matching job applicants with job opportunities. As part of this program, feedback was requested regarding employer satisfaction with C-NEST program completors.

- *Apprentice satisfaction* – Data were collected through formal, internet-based surveys and by direct contact. A 26-item survey was used to collect feedback on onsite instructors, onsite coursework and content, online coursework and content, Online LIVE instructors, Online LIVE coursework and content, and technical support. Overall satisfaction was very positive, reflected by all scores being four or above on a five-point scale.

Future plans for assessing employer and/or participant satisfaction are to be determined.

Next Steps and Sustainability Plans

Grant funds were used to purchase training equipment that could be used after the grant period. Sustainability plans include the goal of institutionalizing the solar and smart grid training into the multiple-year apprenticeship programs. This approach would create a successful pathway to NABCEP or Underwriters Laboratories industry certifications as well as to electrician licensing. Potential funding sources include federal, state, or nonprofit grants, as well as funds administered through local workforce boards.

Project phases would include:

- *Curricula integration* – For each year, integrate competency-based design elements and technology to create lesson plans, problem sets, and hands-on exercises and exams that correlate with standard electrician training.
- *Pilot test* – Test the program at the local AEJATC, including institutionalizing the certification pathway.
- *Statewide implementation* – Using a train-the-trainer methodology, implement across Texas' apprenticeship programs.

Strategic Intent

In 2008, the U.S. Department of Labor (DOL) approved revisions to the federal apprenticeship regulations that offer additional flexibility, enabling a wider variety of industries and occupations to use the registered apprenticeship model. Under the revised regulations, an individual apprenticeship may be measured either through the completion of the industry standard for on-the-job learning (at least 2,000 hours) (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach).⁸

Employment demand for electricians is expected to increase significantly over the decade at the state level and nationally. The table below presents the projected need for electricians due to growth and replacement through 2020. To develop a ready supply of well-trained electrical workers, the Independent Electrical Contractors (IEC) of

Data Sets for Electricians	Number	Percent
U.S. – Employment change, 2010-2020 (in 1000s)	133.7	23.2%
U.S. – Job openings due to growth and replacement needs, 2010-2020 (in 1000s)	289.2	
Texas – Employment change, 2010-2020	8,760	17.4%
Texas – Job openings due to growth and replacement needs, 2010-2020	2,230	

SOURCES: Data for Standard Occupational Classification Code 47-2111 – Electricians as of 2/14/13: U.S. Bureau of Labor Statistics (www.bls.gov) and TWC – LMCI Tracer (www.tracer2.com).

Texas (www.iecoftexas.org) designed a distance-learning strategy to enhance and expand registered apprenticeship opportunities.

The IEC project is one of several identified by the Texas Workforce Investment Council (Council) for study. This paper documents the project's distance-learning strategy as a promising practice. It contains an overview of programmatic and administrative elements, and also identifies tools and processes that may be appropriate for

replication. Given the early stage of implementation and its lead role, much of the information provided herein is specific to the IEC Fort Worth/Tarrant Chapter (www.iecfwtc.org).

Project Goals

IEC of Texas is a nonprofit trade association for independent electrical contractors. Members provide construction, installation, service, and repair work for residential, commercial, and industrial customers. With 12 local chapters, IEC of Texas has over 400 electrical contractor members in Texas. The group sponsors a four-year electrical apprenticeship training program that is registered with DOL.

The IEC project incorporates three strategies that were approved by DOL in the 2008 revisions to federal apprenticeship regulations: distance learning, pre-apprenticeship, and outreach to youth and women. Under this initiative, local IEC chapters are able to select one or more strategies that are compatible with their available resources and goals. For distance learning, the overall goal is to establish an integrated learning model to provide access for apprentices in all areas of Texas.

Specified *educational goals* include:

- Recruit and train individuals in the electrical trade.
- Prepare individuals to move into IEC registered-apprenticeship programs.

Specified *workforce goals* include:

- Provide employees for IEC member contractors.
- Improve employee retention.

⁸ *Federal Register*, Vol. 73, No. 210, Wednesday, October 29, 2008, p. 64428: §29.5(b)(2).

- Meet projected need for electricians.
- Increase Texas' workforce.
- Increase number of individuals with portable credentials.

Program Overview

The IEC of Texas, working with the 12 local chapters, designed the distance-learning option in partnership with the IEC Atlanta Chapter. The program model and guide were based on the successful online apprenticeship training program developed for IEC apprentices in Georgia. Many registered apprentices travel to work and do not have ready access to a physical classroom. The online distance-learning program offers an effective means of delivering educational material to the apprentices of IEC member contractors, regardless of worker location.

IEC implements its distance-learning strategy through the use of electronic media, using an integrated learning experience which consists of live instructor-led sessions over the Internet, supervised lab instruction by a qualified journeyman, and proctored major exams. The distance-learning and traditional classroom options ensure that apprentices are fully prepared for industry certification.

Whether in a traditional classroom or distance-learning format, IEC's apprenticeship training program is conducted over a four-year period, with a minimum of 144 hours of instruction annually. In all, apprentices complete 576 hours of instruction and 8,000 hours of on-the-job training. As an apprentice, individuals receive wages, and may receive health insurance benefits and paid leave.

After successful completion of the four-year program, apprentices receive a Completion Certificate from DOL's Office of Apprenticeship. This industry-issued, nationally recognized credential certifies occupational proficiency and is portable, meaning program graduates can take their certification anywhere in the U.S.

Key Program Elements

IEC's distance-learning model combines live webcast with hands-on training, providing flexibility to both contractors and apprentices. Online classes for first- through fourth-year apprentices typically begin in the summer or fall, and additional classes may be added throughout the year based upon demand. In general, smaller class sizes, preferably six to 15 apprentices, are expected to ensure a better learning experience. Key program elements include:

- *Live Webcast* – IEC's online classroom training provides live instruction, using instructors who are skilled in the delivery of training over the Internet.

Using a web-based program designed for online learning, apprentices see their instructor, watch live demonstrations, and are able to ask real-time questions through voice over Internet protocol technology. Classes are one night a week, just as they are for onsite training. The curriculum follows IEC National's curriculum. Apprentices are able to go from IEC's onsite classroom to the online training and not change books, instructional methods, or curriculum. In addition, if an apprentice moves to another IEC chapter location, they can transfer without losing any credit.

As in the onsite classroom method, homework is assigned and quizzes are completed. Through use of the virtual classroom, instructors can quickly determine how well apprentices understand the concepts and make appropriate adjustments.

IEC confirms attendance and each apprentice's progress in the program. Sponsoring contractors are informed of attendance and grades each semester.



- *Hands-On Lab Sessions* – Although the on-the-job training component of apprenticeship takes place in the field, IEC considers hands-on lab sessions to be a vital training component. Four-hour labs are required a minimum of four times per year and are conducted according to a prescribed format that directly relates to the IEC curriculum.

IEC provides lab locations throughout the state based upon demand, and can add more as necessary. Apprentices are scheduled to attend a lab location closest to them. If a location is not convenient, a suitable alternative may be approved. Hands-on labs coincide with the online learning material and are practical in nature to allow the apprentice to become productive as soon as possible.

- *Proctored Exams* – Proctored exams provide an important component of the integrated learning model. All online apprentices are required to travel to a pre-assigned location, typically the same as the lab location, for written exams. Exams are monitored by a qualified individual to ensure the integrity of the exam and the program.

Instructors

- *Qualifications* – Each instructor meets at least one or more of the criteria outlined in the federal regulations for qualified instructor. They are often qualified journeypersons actively engaged in fieldwork on a regular basis. Other instructors are recognized state, county, or city Code Enforcement Officials (i.e., inspectors), or currently possess an active Electrical Contractor License as provided by the state.
- *Training* – Prior to teaching through the distance-learning format, IEC instructors receive training in effective online teaching methods. Instructor training is provided through IEC National's online program, Texas A&M University, or a third-party contractor.
- *Instruction Method* – Each online session incorporates a blend of live, instructor-led training via the Internet using graphic information, daily learning exercises, homework review, and study group assignments. This design helps apprentices improve field productivity while learning important concepts that will help them become qualified electricians in the future. Instructors may provide technical assistance by telephone, email, or online during class sessions.

Instructor Resources

In addition to training and the *User Manual: Online Integrated Apprenticeship Training Program*, IEC ensures consistent, quality instruction by providing instructors with:

- a complete set of PowerPoint lessons, with talking points, for each lesson;
- copies of materials for the hands-on lab projects that each apprentice will attend during the curriculum year, to be reviewed with apprentices prior to their assigned lab dates;
- a User ID that enables use of the online portal;
- a copy of exam software and test bank, used to design tests that are taken online and returned via email; and
- other supporting data and supplies used to teach the course.

Tool/Process Documentation

User Manual: Online Integrated Apprenticeship Training Program

Delivery-Mode Requirements

Apprentices are required to use specific equipment in order to access the electronic course. They must have a computer, email address, and access to a DSL line (or high-speed air-card). Familiarity with computer operations is helpful, but not essential. IEC provides a step-by-step start-up guide at enrollment.

Tool/Process Documentation

Detailed computer, browser and software requirements are included in the *User Manual*

The sponsoring employer may assist with access to the required equipment and tools necessary to participate in scheduled training sessions. In some cases, employers may arrange for the purchase of required tools through payroll deduction.



Lessons are conducted using the online platform, with sessions scheduled for up to four hours depending on the content to be delivered. In the event that an Internet connection fails, recorded course material is archived for a period of time to allow access when the connection is restored.

Instructors are required to cover all PowerPoint slides and are not allowed to change the presentation. However, they may include additional information to improve delivery or student understanding. Examples include the *National Electrical Code*[®], blueprints and building specifications, and applicable components or devices that are large enough to see online (e.g., generator, motor, cable).

Attendance Policy

Apprentices receive a course schedule that includes dates, times, and location, if applicable, for each class, lab session, and proctored exam. Each chapter provides information on absentee policies. The IEC Fort Worth/Tarrant County Chapter's policy is provided below:

- Excused absences may be granted by exception. Extenuating circumstances might include work requirements, illness, or weather-related circumstances that prohibit online access or travel to a required lab/exam.
- Apprentices missing a scheduled class must view the recorded version prior to the next regular class.
- Apprentices that miss a lab session or a proctored exam receive a zero for that assignment. Arrangements may be made for scheduling a makeup session.

Apprentices sign into the course via the online platform or in person at predetermined times for up to 52 class sessions of up to four hours in length. As noted above, they are also required to attend hands-on labs and proctored exams at a predetermined location. Attendance records are submitted to the sponsoring member contractor.

Testing and Evaluation

- *Quizzes* – Apprentices are quizzed after each lesson attended or viewed. Quizzes are accessed through the iecfwtc.org website and include multiple choice, matching outcome, mathematical equation, or narrative answers. They are submitted electronically to the instructor for review and approval of final grading.
- *Major Exams* – There are four major exams (i.e., two midterm, two final) each curriculum year to test for knowledge and skill retention. They are taken at predetermined testing centers under the supervision of a proctor, typically a past graduate of the apprenticeship program, a current employee of a member contractor, or other approved exam supervisor.
- *Comparative Analysis* – One method of measuring performance is to compare quiz and major exam scores of apprentices that receive related training through electronic means to the scores of those attending traditional apprenticeship classes. Significant negative variances will be identified and investigated to ensure that appropriate corrective action is implemented swiftly and effectively.
- *Lab Sessions* – Supervised lab activities are a minimum of four times each curriculum year. Apprentices participate in supervised skills demonstration activities and are evaluated by the activities supervisor. Pass/fail grades are issued and apprentices that receive a failing grade are counseled and provided information on proper techniques to improve skills attainment.

Administrative Overview

In May 2011, the IEC Fort Worth/Tarrant County Chapter requested approval from DOL's Office of Apprenticeship to provide the registered apprenticeship program through the use of electronic media. Approval was granted in August

Tool/Process Documentation

- ▶ IEC Fort Worth/Tarrant County DOL request (submitted May 17, 2011; DOL approved August 2, 2011)
- ▶ Sample DOL request with descriptive information
- ▶ Executive Summary for IEC of Texas Online Integrated Apprenticeship Program

2011. Each IEC chapter must seek DOL approval to offer the apprenticeship program using the distance-learning format.

Eligibility and Coverage

As required by the IEC Apprenticeship Standards, the online distance-learning program is available only to employees of member contractors. A qualified employee is defined as a person that works for an IEC member contractor on a full-time basis completing electrical work in the field.

In addition, the individual must be able to meet the minimum entrance requirements for the chapter's apprenticeship program. Priority placement is given to apprentices that travel due to work assignments or live a substantial distance from a physical location where the apprenticeship program takes place. Minimum requirements for the IEC Fort Worth/Tarrant County Chapter are presented at right.

The contractor is required to sponsor the apprentice for the online program, and to ensure the apprentice has adequate computer and Internet access. The contractor must allow the apprentice to travel to the lab/testing location at the prescribed times.

Minimum Requirements for Applicants

- ▶ Be at least 18 years of age.
- ▶ Have completed four years of high school or successfully passed the GED equivalent.
- ▶ Be physically capable of performing the essential functions of the apprenticeship program without posing a direct threat to the health and safety of the individual or others.
- ▶ Be able to obtain a State of Texas Electrical Apprentice License.
- ▶ In the four year period, willing to attend a minimum of 576 hours of classroom instruction at night without compensation and 8,000 hours in an on the job training program supervised by the Apprenticeship & Training Committee.
- ▶ Complete the apprenticeship application and submit it to the Apprenticeship & Training Committee.
- ▶ Appear for all scheduled interviews.
- ▶ Have transportation to work and school.

- IEC Fort Worth/Tarrant County Chapter, 2012©

Outreach and Marketing

Tool/Process Documentation

Map – IEC chapters and expanded service areas for distance learning

The 12 IEC chapters in Texas worked to ensure distance-learning coverage across the state. A task force with representatives from all chapters collaborated to select and provide program access for counties not covered by a local chapter.

DOL approves each chapter's marketing plan. Marketing to current and potential members for classes offered through distance-learning or the traditional classroom format is ongoing. Application windows and deadlines may vary by local chapter.

IEC provides customizable tools such as mailout cards and brochures specific to the distance-learning option to all chapters. They may be used for a variety of target groups including:

- current and potential member contractors;
- school organizations and counselors;
- local workforce centers;
- veterans' organizations; and
- community and non-profit organizations, including those that provide services to women and youth.

Tool/Process Documentation

- ▶ Marketing brochure – customizable and Fort Worth/Tarrant County versions
- ▶ Customizable promotional postcard
- ▶ Marketing plan from DOL-approved standards of apprenticeship
- ▶ 2013 marketing plan/materials for expanded service area

In addition, advertisements may be placed in newspapers and industry-focused publications.

Application and Registration Process

The application process has two parts. Part one is completed by the apprentice applicant and requires personal information and job history, as well as confirmation of Internet accessibility. Part two is completed by the sponsoring contractor and returned to IEC with payment of the proper fees by mail or other delivery method.

When IEC receives a completed application with fee payment, a letter is sent to the contractor and to the employee indicating a time and date that the employee will attend an online orientation session to ensure computer set-up and Internet accessibility. All course tuition and book fees must be received by IEC before the apprentice attends the course orientation session. Once an apprentice starts class there are no refunds or exchanges.

Immediate registration with DOL's Office of Apprenticeship is completed upon payment of all related course fees. The applicable local chapter facilitates this process.

Cost Considerations

The cost per apprentice is consistent statewide, and does not vary by local chapter. Base costs for the apprentice include tuition of \$750 per semester, which also covers supervised labs and proctored tests. In addition, the apprentice must obtain the IEC National Curriculum kit and current *National Electrical Code*[®]. Estimated book costs are \$300 for the first year, with years two to four ranging from \$275 to 350 annually.

Local chapters cover the annual fees that enable instructors to access the online portal.

Program Refinement

Given the early implementation stage of IEC's distance-learning program, ad hoc program feedback has been collected rather than formal feedback through more structured mechanisms such as online or telephone surveys. Information will continue to be collected from contractors, chapter staff, apprentices, and instructors.

Early lessons learned include:

- Small classes are preferred for the distance-learning model. Apprentices must be monitored more closely than those in the regular classroom setting to ensure success.
- To make the program available to more licensed contractors and apprentices, the chapters in Texas expanded their service areas to include counties not currently covered by an IEC chapter.
- Apprentices already enrolled in the classroom program have not preferred to transfer to the distance-learning format.
- In some cases, apprentices with peers enrolled in the classroom model tend to prefer that method given work and learning relationships.
- Future program start dates may need to be modified to accommodate more apprentices.

Appendix B

Process Flow

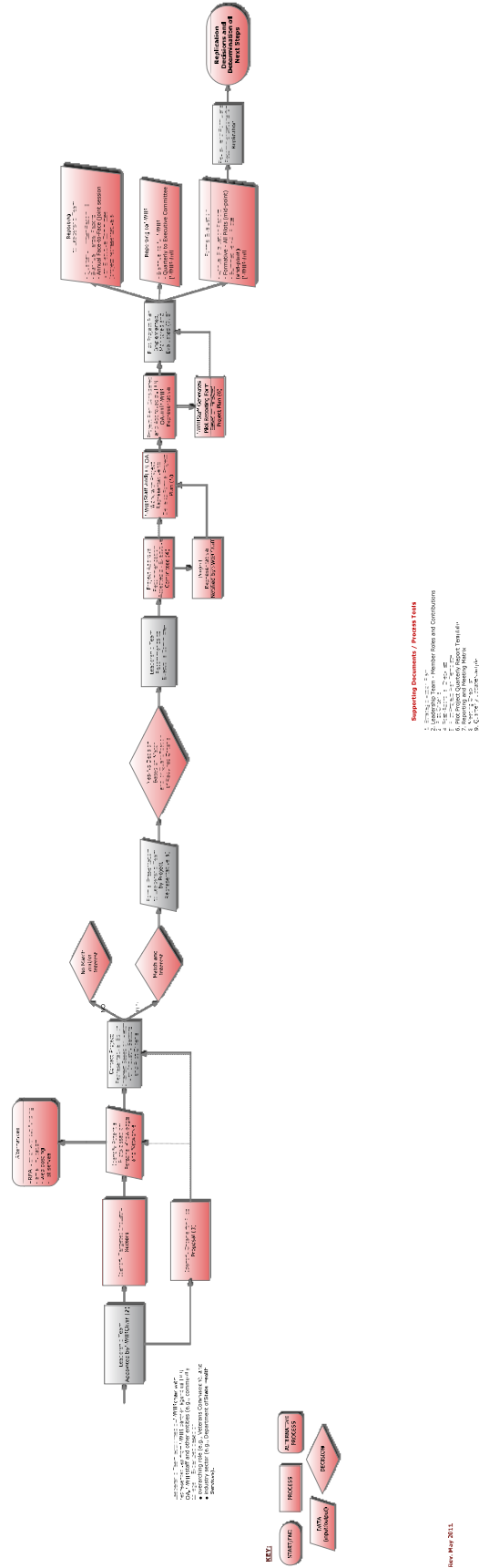
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Apprenticeship Pilot Projects

Pilot Project Process Map

Pilot Project Process Map

Texas Workforce Investment Council: Apprenticeship Pilot Project



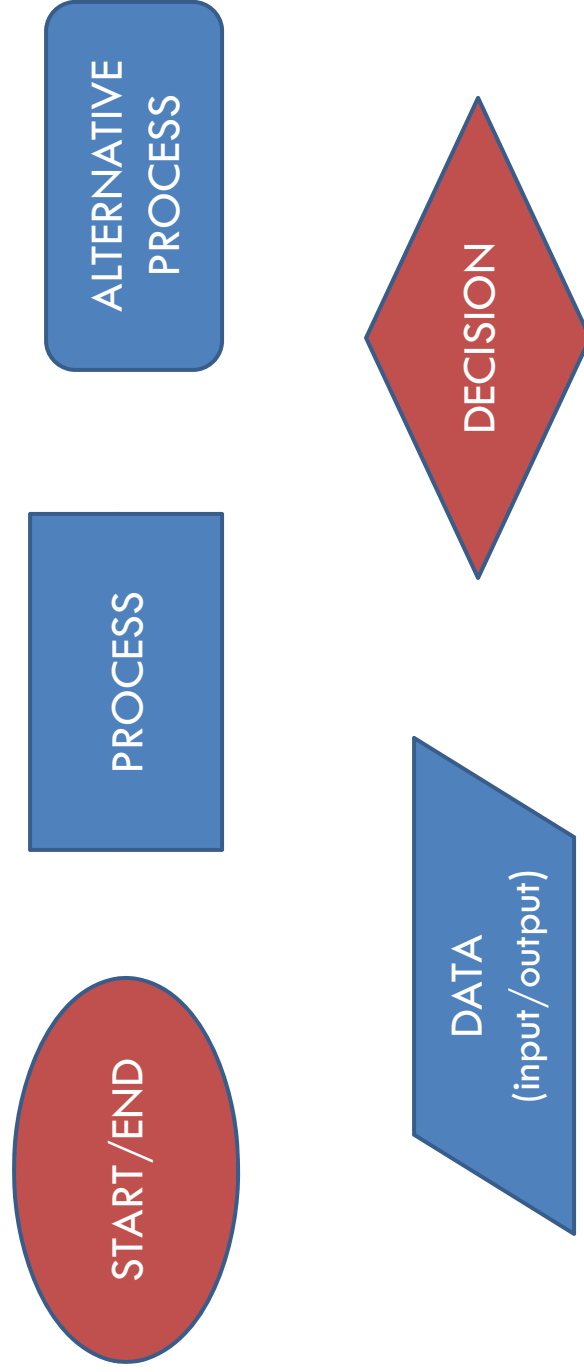
Supporting Documents / Process Tools

3

1. Strategic Action Plan P2 - Apprenticeship
2. Leadership Team – Member Roles and Contributions
3. Criteria for Pilot Selection
4. Post-Approval Checklist (*internal use*)
5. Pilot Project Plan Template
6. Pilot Project Quarterly Report Template
7. Reporting and Meeting Matrix (*internal use*)
8. Meeting Checklist (*internal use*)
9. *Quarterly Update Sample*

Process Map Key

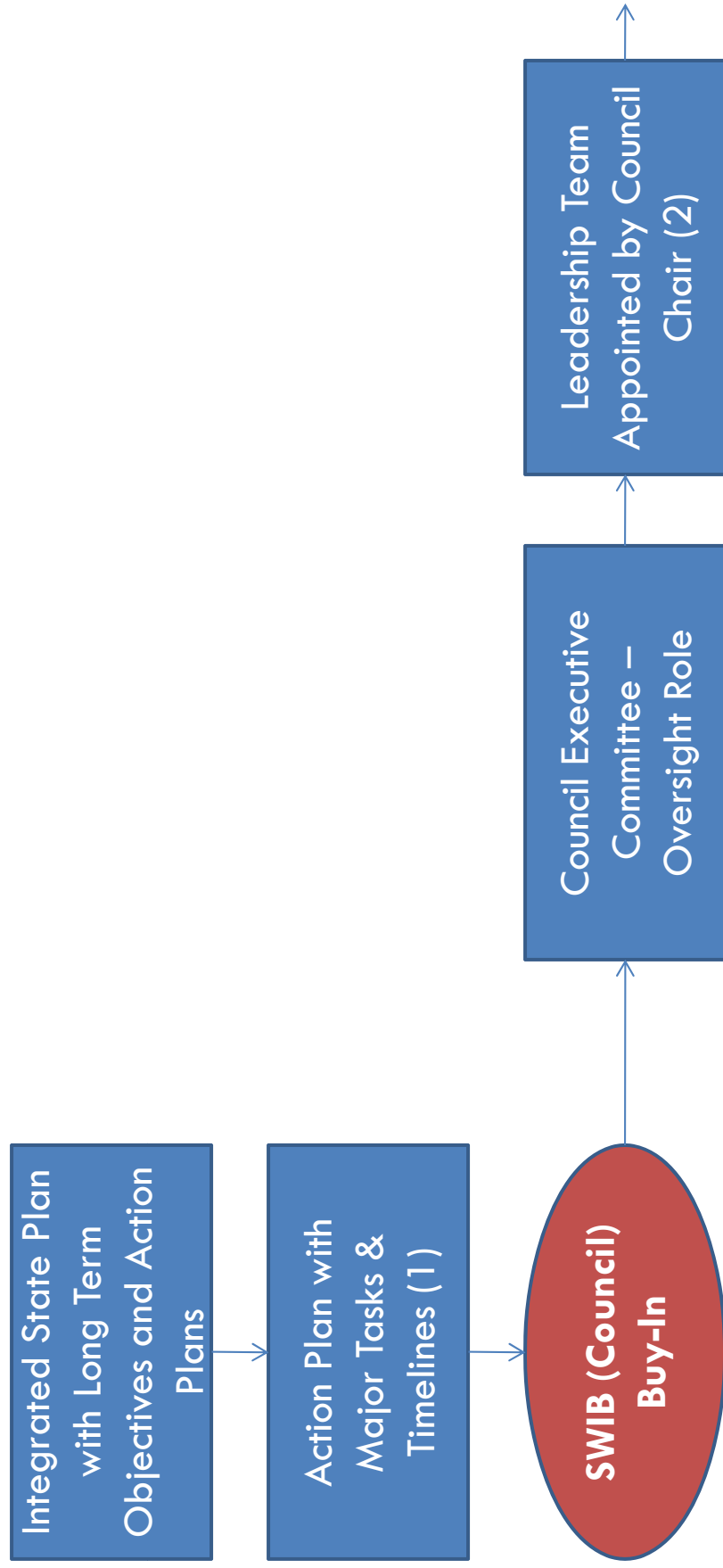
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Process Map pt. 1

5

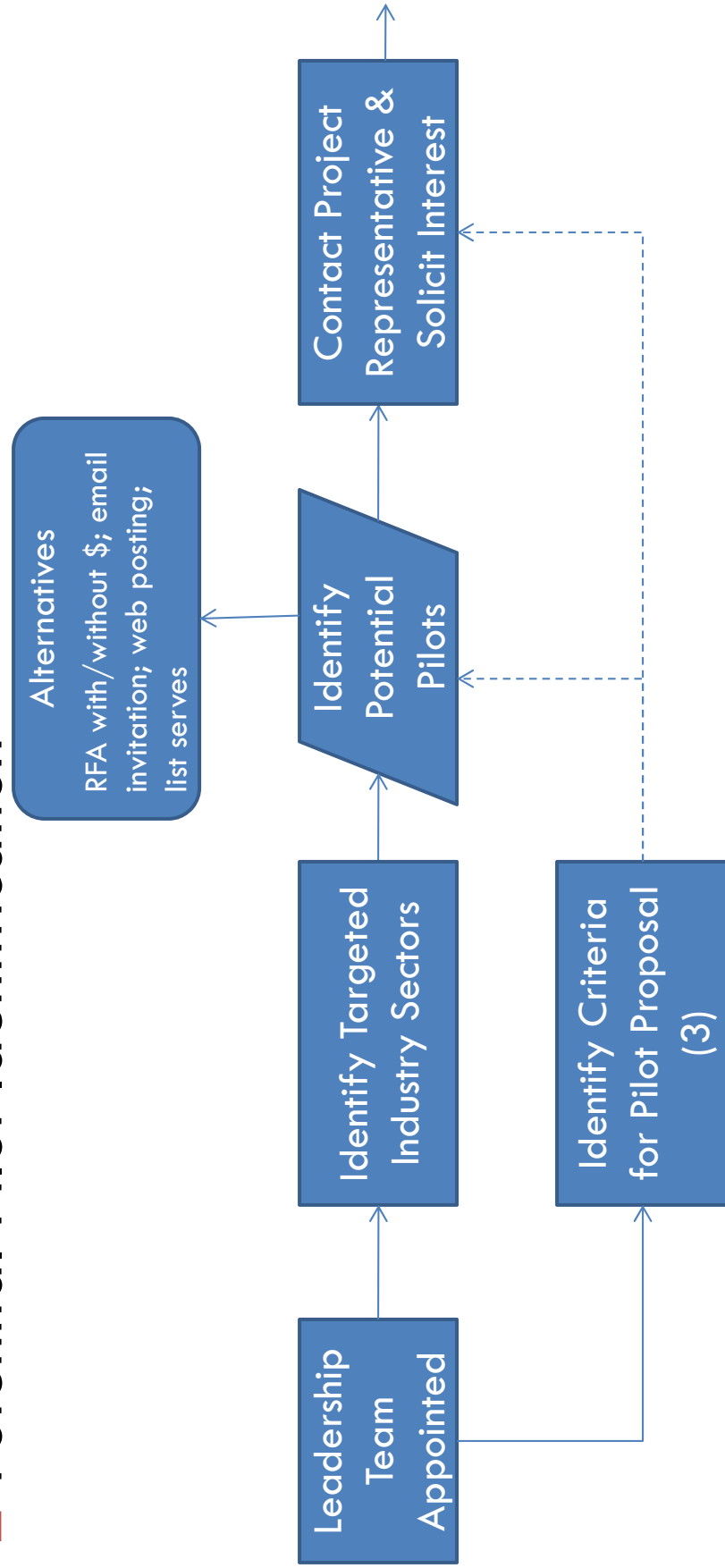
□ Project Inception – Leadership Team Formation



Process Map pt. 2

6

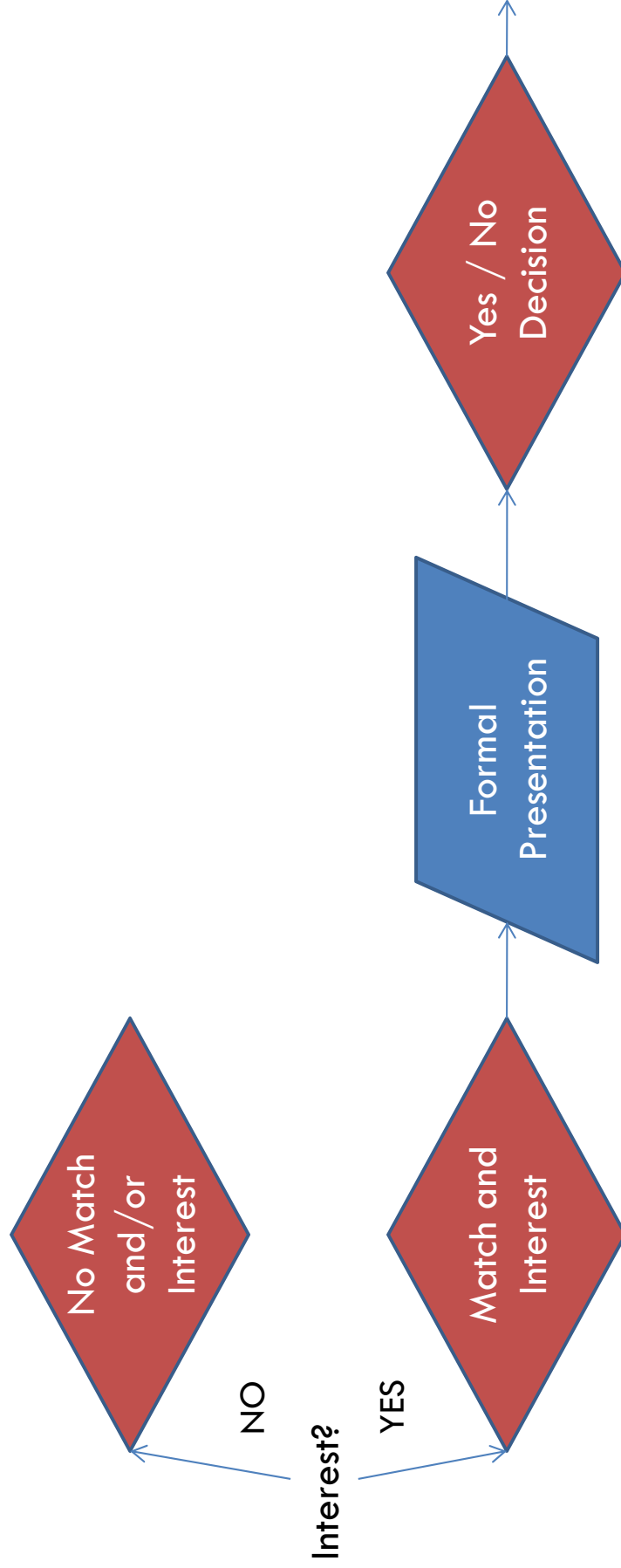
□ Potential Pilot Identification



Process Map pt. 3

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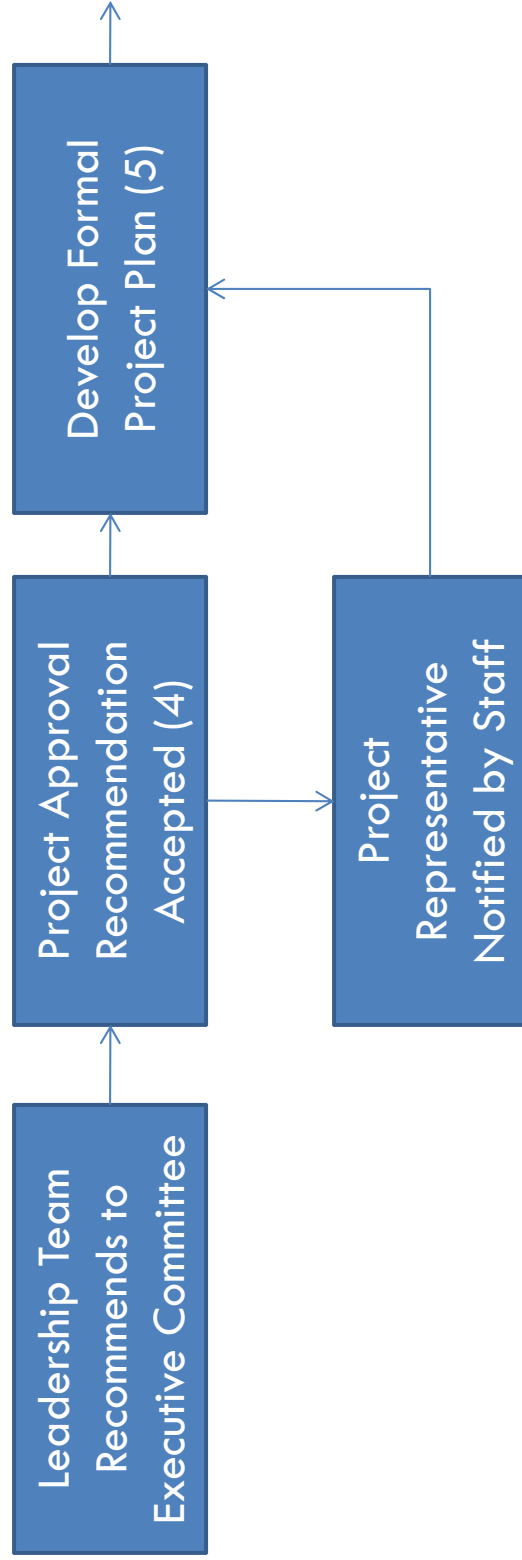
□ Potential Pilot Selection



Process Map pt. 4

8

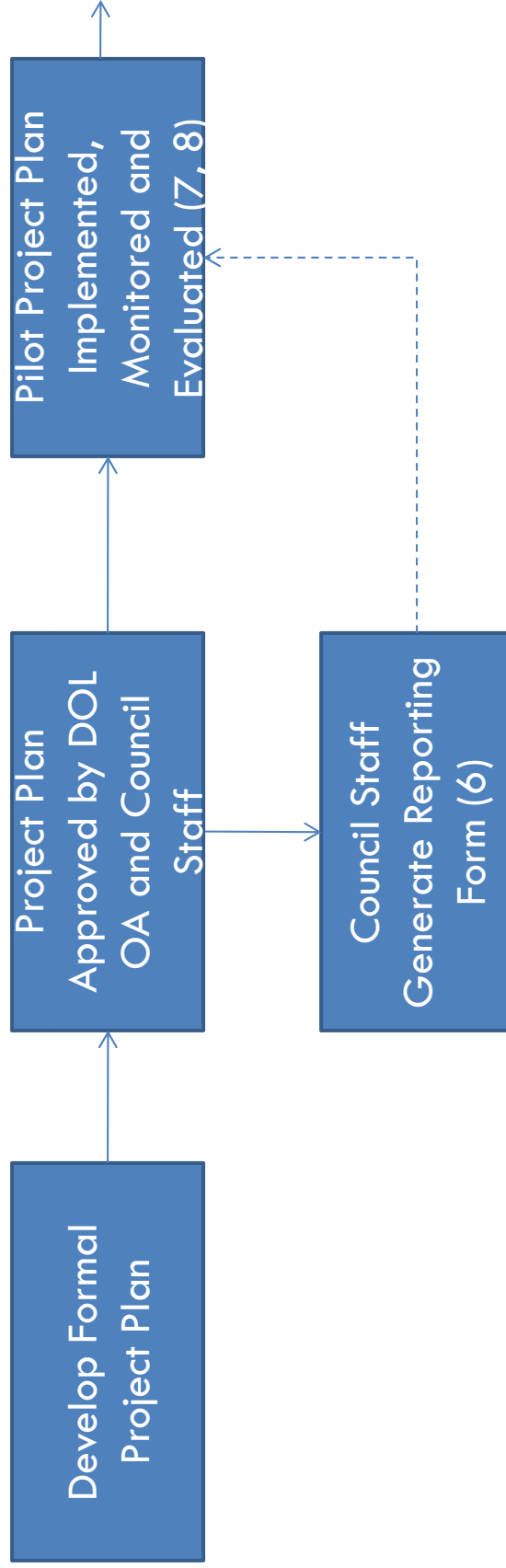
□ Pilot Approval / Project Plan Development



Process Map pt. 5

9

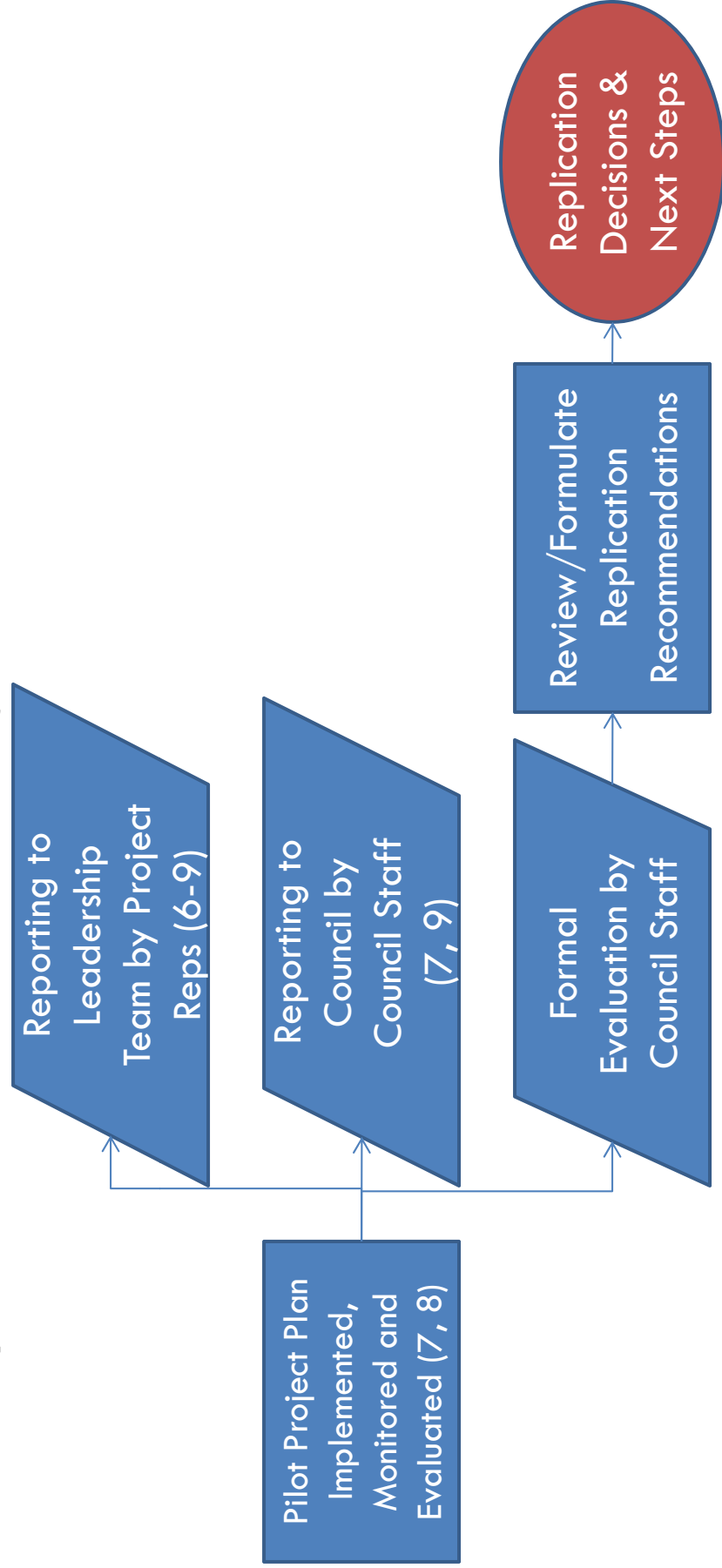
□ Pilot Plan Approval and Implemented



Process Map pt. 6

10

□ Implementation, Monitoring and Evaluation



Questions?

Action Plan ID: P2		Action Plan Owner: Council	Action Plan – 2012 Update			Updated: 3/8/12	Rev: 1
Action Plan Status: Active		Long Term Objective					Plan Type: System
Key Performance Area: Programs, Products and Services		By 2012, design, develop, and implement a pilot program to demonstrate flexibility of the 'earn while you learn' model of traditional apprenticeship programs. Where appropriate, expand and replicate into new occupational areas by 2015.					
Accountable Participants: Council							
Critical Business Issue: Increasing shortage of workers with appropriate middle skills created by a skills gap and future workforce retirements in a wide range of industries and occupations.		Key Performance Measures <ul style="list-style-type: none"> • Execution of pilot by specified date. • Evaluation of early-stage outcomes for program participants. • Evaluation of program completion outcomes for program participants. 					
Status	No.	Major Tasks/Milestones	Start (mm/yy)	Completion (mm/yy)	Dependencies	Tracking Measures, Interim Outputs & Recommended Reporting Schedule	
✓	1	Form statewide leadership team/ steering committee to guide the execution of the action plan and projects that are generated from it.	in progress	12/2009		Completed	
✓	2	Identify up to three potential projects to address employer demand for skilled workers through registered apprenticeship training. Eligible projects would be engaged in: <ul style="list-style-type: none"> • modification of an existing registered apprenticeship program to incorporate the increased flexibility afforded by new DOL regulations, or • development of a new registered apprenticeship program in an occupation that is part of one or more of the Governor's six target industry clusters. 	12/2009	03/2010	2008 revisions to Title 29 CFR part 29, including but not limited to use of competency-based program design, a hybrid of competency-based and time-based program design, or use of electronic media and other tools to support technology-based and distance learning options.	Completed	
✓	3	Identify and secure commitment to participate from the entities that will be necessary to develop/modify and implement the program. These entities form the Project Team for each project and will include representatives from some or all of the following, based on the needs and design of the project: <ul style="list-style-type: none"> • the local education agency • community college • workforce board • employers • labor union • joint apprenticeship training committee • U.S. Department of Labor 	03/2010	09/2010		Completed	
✓	4	Project team works with DOL to modify/ register program.	09/2010	09/2012		In Progress	
	5	If additional federal funding becomes available for expansion of registered apprenticeship, the Project Team, in consultation with the statewide leadership team/steering committee, will prepare and submit a proposal for funding.	2010	ongoing	Availability of funding from the U.S. Department of Labor.		
	6	Undertake formative evaluations of the programs in this initiative at the mid-point of the length of the program.	2013	2014	Pilot program duration.		
	7	Undertake summative evaluations of the programs in this initiative at the end-point of the length of the program.	2014	2015	Pilot program duration.		

**Advancing Texas: Strategic Plan for the Texas Workforce System (FY2010-FY2015)
Long Term Objective (LTO) P2 – Expand Registered Apprenticeship**

LTO P2: By 2012, design, develop, and implement a pilot program to demonstrate flexibility of the ‘earn while you learn’ model of traditional [registered] apprenticeship programs. Where appropriate, expand and replicate into new occupational areas by 2015.

The Texas Workforce Investment Council (Council) is responsible for leading implementation of this long term objective. The Council’s Executive Committee will oversee implementation on behalf of the Council, assisted by a strategic plan project team created by the Council Chair. Apprenticeship Project Leadership Team members were selected to fulfill a unique role based on the mission and expertise of each member and member organization.

Apprenticeship Project Leadership Team – Member Roles and Contributions

Texas Workforce Investment Council
Chair, Members (2), Director

- Coordinate and facilitate Leadership Team meetings and action plan implementation and report to the Council’s Executive Committee
- Ensure Leadership Team activities and actions align with action plan and *Advancing Texas*
- Coordinate communication with potential and selected pilots and as needed with state agencies
- Provide input based on expertise in registered apprenticeship and workforce education

Texas Workforce Commission
ATAC Liaison / Contract Specialist

- Provide information on agency initiatives, programs and priorities related to registered apprenticeship
- Provide guidance and technical assistance regarding coordination with local workforce boards and workforce centers

U.S. Department of Labor, Office of Apprenticeship
Texas State Director

- Provide guidance and technical assistance to Leadership Team and pilots regarding development of registered apprenticeship programs
- Conduct regular reviews of pilot sites (the pilot representative will report progress to Leadership Team)

Temple College
Associate Vice President of Health Professions

- Provide community college perspective on development a registered apprenticeship program in biotechnology/life sciences
- Provide guidance on challenges and opportunities for development of registered apprenticeship in allied health occupations

Texas Higher Education Coordinating Board
Director, Academic Research and Grants Program

- Provide information and guidance regarding workforce education and Related Technical Instruction for registered apprenticeship
- Provide guidance and technical assistance regarding coordination with community and technical colleges

Texas Veterans Commission
Operations Manager

- Provide information on agency initiatives, programs and priorities regarding employment and training for veterans
- Provide guidance and technical assistance regarding coordination with TVC.

Texas Department of State Health Services
Maternal & Child Health Program Coordinator

Provide guidance on development of registered apprenticeship for Community Health Workers and other allied health occupations

Advancing Texas: Strategic Plan for the Texas Workforce System (FY 2010-FY2015)**Long-Term Objective (LTO) P2 – Expand Registered Apprenticeship**

By 2012, design, develop, and implement a pilot program to demonstrate flexibility of the ‘earn while you learn’ model of traditional [registered] apprenticeship programs. Where appropriate, expand and replicate into new occupational areas by 2015.

Potential Pilot Project Checklist**1. Registered Apprenticeship Basics**

- a. Is the proposed pilot recognized by the U.S. Department of Labor, Office of Apprenticeship (OA) as an **apprenticeable occupation**? If not, has it been submitted to OA for consideration?
- b. Who is the **program sponsor**¹?
- c. Is the proposed program structured to include:
 - i. At least 2,000 hours of supervised, structured **on-the-job experience**?
 - ii. **Related theoretical instruction** (classroom instruction, distance learning, and correspondence courses, to ensure that new workers know everything they need to succeed)?
 - iii. **Incremental wage increases** aligned with enhanced job proficiency? (as exhibited by attainment of job competencies, results from on-the-job learning, mentoring and related instruction) What is the anticipated wage at the beginning of the program and at each increment?
- d. What is the **length** of the program? (Most apprenticeships take 1 to 4 years to complete.)
- e. Is the **program model** a) time-based, b) competency based, or c) a hybrid approach involving both time and competency?
- f. How will apprentices be **recruited**?

¹ **Registered Apprenticeship program sponsors** are individual employers or groups of employers or employers with labor unions who play a critical role. Sponsors recruit, screen and hire apprentices; develop formal agreements with them identifying the length of the program, skills to be learned, the wages to be paid at different points in time, and the required classroom instruction. They work with state apprenticeship offices to make sure their Registered Apprenticeship programs meet state and Federal requirements. Program sponsors pay most of the training costs while simultaneously increasing the wages of the apprentices as their skill levels increase.

2. Additional Criteria

- a. What is the current and anticipated **employer demand** for this occupation?

- b. Who are the **partners** in the project? Does the partnership include representatives from the entities necessary to ensure the success of the project based on the project's design and needs? (e.g. U.S. Department of Labor, employers, employer intermediary such as a chamber of commerce and/or a local workforce board, local education agency, community college, labor union)

- c. Does the program design include a **pre-apprenticeship component** to help participants prepare and qualify for entry into the program? (pre-apprenticeship programs may include work readiness components as well as basic skills instruction in reading, writing and mathematics)

Advancing Texas: Strategic Plan for the Texas Workforce System (FY2010-FY2015)
Long Term Objective P2: Expand Registered Apprenticeship to Meet Employer Demand for Skilled Workers

Pilot Project Action Plan

Section 1: Action Plan

(Basic timeframes and key activities are in italics. Pilots will add additional milestones as appropriate.)

Project Lead: (name and contact information)	Implementation Region:
Registered Apprenticeship Occupation:	Program Type: Select one
Project Start Date: (m/d/yyyy)	Outcome Measures:

No.	Major Tasks/Activities	Timeframe		Interim Milestones and Reporting Schedule
		Start	Complete	
1	<i>Work with U.S. Department of Labor Office of Apprenticeship (DOL OA) to develop program:</i> <ul style="list-style-type: none"> • <i>secure employer commitment</i> • <i>identify RTI subject areas and OJL work processes</i> • <i>develop wage schedule</i> • <i>develop recruitment and selection strategy, including AAP if necessary</i> 	<i>9/1/10</i>	<i>3/1/11</i>	<ul style="list-style-type: none"> • <i>DOL OA approves program to begin registering apprentices</i> • <i>Pilots submit quarterly status report to Texas Workforce Investment Council (TWIC)</i>
2	<i>Register apprentices and begin program</i>	<i>3/1/11</i>	<i>3/1/12</i>	<i>Pilots submit outcomes data and quarterly narrative report to TWIC</i>
3	<i>DOL OA conducts field visit and quality assessment review</i>	<i>3/1/12</i>	<i>9/1/12</i>	<i>Pilots report on outcome of DOL OA review in their quarterly report to TWIC</i>
4	<i>Continue to register apprentices and operate program</i>	<i>3/1/12</i>	<i>8/31/15</i>	<i>Pilots submit outcomes data and quarterly narrative report to TWIC</i>
5	<i>DOL OA conducts periodic field visit and quality assessment review (Will include an EEO compliance review if the program has 5 or more apprentices)</i>	<i>3/1/15</i>	<i>9/1/15</i>	<i>Pilots report on outcome of DOL OA review in their quarterly report to TWIC</i>
6				
7				
8				
9				
10				

Section 2: Narrative Description of Program

Section 3: List of Participating Entities and Employers

Participating Entity/Employer	Role
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Section 4: Resource Needs

Advancing Texas: Strategic Plan for the Texas Workforce System (FY2010-FY2015)
Long Term Objective P2: Expand Registered Apprenticeship to Meet Employer Demand for Skilled Workers

Pilot Project Quarterly Report

Section 1: Action Plan

(Basic timeframes and key activities are in italics. Pilots will add additional milestones as appropriate.)

<p>Project Lead: (name and contact information) Leslie Hargrove - Executive Director Coastal AHEC PO BOX 2, 808 Bayou LaMarque, Texas 77568 (409) 933-0021 lhargrove@cahectx.org</p>	<p>Implementation Region: Focus on the 111 Counties within the East Texas AHEC Region</p>
<p>Registered Apprenticeship Occupation: Community Health Worker</p>	<p>Program Type: Hybrid</p>
<p>Project Start Date: (m/d/yyyy) 9/1/2009</p>	<p>Outcome Measures: # of employer registered as apprenticeship sites # of CHW Apprentices beginning the program # of CHW Apprentices completing the program # of CHW Apprenticeship completers who retain or gain employment % of employers rating the didactic training as helpful or very helpful % of CHW Apprentices that rate the didactic training as helpful or very helpful</p>

No.	Major Tasks/Activities	Timeframe		Interim Milestones and Reporting Schedule
		Start	Complete	
1	Work with U.S. Department of Labor Office of Apprenticeship (DOL OA) to develop program: <ul style="list-style-type: none"> secure employer commitment identify RTI subject areas and OJL work processes develop wage schedule develop recruitment and selection strategy, including AAP if necessary 	9/1/10	3/1/11	<ul style="list-style-type: none"> DOL OA approves program to begin registering apprentices Pilots submit quarterly status report to Texas Workforce Investment Council (TWIC) See attached sheet
2	Register apprentices and begin program	3/1/11	3/1/12	Pilots submit outcomes data and quarterly narrative report to TWIC Assist additional employer with DOL paperwork Enroll first cohort of apprentices to begin the full process without time granted Advocate for alternative funding sources
3	DOL OA conducts field visit and quality assessment review	3/1/12	9/1/12	Pilots report on outcome of DOL OA review in their quarterly report to TWIC Continue to grow and refine the program
4	Continue to register apprentices and operate program	3/1/12	8/31/15	Pilots submit outcomes data and quarterly narrative report to TWIC Continue to grow and refine the program
5	DOL OA conducts periodic field visit and quality assessment review (Will include an EEO compliance review if the program	3/1/15	9/1/15	Pilots report on outcome of DOL OA review in their quarterly report to TWIC

Advancing Texas: Strategic Plan for the Texas Workforce System (FY2010-FY2015)
Long Term Objective P2: Expand Registered Apprenticeship to Meet Employer Demand for Skilled Workers

No.	Major Tasks/Activities	Timeframe		Interim Milestones and Reporting Schedule
		Start	Complete	
	<i>has 5 or more apprentices)</i>			
6				
7				
8				
9				
10				

Section 2: Provide a narrative update on project activities during the last quarter, including change or completion of major tasks specified in the project action plan, addition of new partners, and identification of resource needs.

This quarter has been very busy. Project staff has spent a great deal of time this quarter making others aware of the Community Health Worker profession and the CHW apprenticeship model. The Department of Labor's Office of Apprenticeship requested that our program present a webinar on the CHW apprenticeship model in conjunction with their office. The webinar was held on March 1st with 188 participants nationally. The program received lots of interest and ran out of time to address all the questions. Submitted questions have been answered by the presenters and will be posted with the link for future reference. In addition to the webinar, we participated in the U.S. Department of Labor Office of Employment and Training Administration's Region IV Retooling for Recovery Forum as a pilot program of the TWIC. This program was also well received. Finally, the Coastal AHEC was approved at the first registered apprenticeship site. The information learned from this process will be used to help others apply.

Section 3: Provide quantitative results for the past quarter for the outcome measures specified in the project action plan.

Number of registered employers: 1

Section 4: Summarize lessons learned during the quarter, including observations, challenges and successes.

Several things were learned this quarter. First, a great deal was learned about the process of registering an employer site with the Department of Labor. During the next quarter we plan to compile this information with additional information regarding the benefits of apprenticeship. It will be very helpful to be able to provide this to possible employer sites. In addition, the opportunity to present the CHW apprenticeship to multiple audiences has allowed us to get a better idea of the common questions employers and others may have about this program. Again, this will allow us to provide a question and answer document to employers as we promote and discuss this beneficial workforce.

Quarterly Update
June 2013

Registered Apprenticeship as a Strategy to Meet Employer Demand for Skilled Workers

Texas Workforce Investment Council

Background

One of the Council's chief responsibilities in state law is the development of a strategic plan for the Texas workforce system. The current system strategic plan, *Advancing Texas*, was first approved by the Council on September 3, 2009 and by Governor Rick Perry on October 23, 2009. During the development of *Advancing Texas*, Council members identified the impending need for workers in middle-skill occupations as a priority issue for the workforce system. Middle-skill occupations are those that require more than a high school diploma but less than a four-year degree. One of the plan's strategies focuses on registered apprenticeship to address employer demand for skilled workers. The long term objective is to design and implement a pilot program to demonstrate the flexibility of the earn-while-you-learn model of traditional apprenticeship programs by 2012, and to expand and replicate, as appropriate, into new occupational areas by 2015.

"In occupations in which apprenticeship is the typical on-the-job training, employment is projected to **grow by 22.5 percent**, faster than for any other on-the-job training category."

*Bureau of Labor Statistics News
Release (2/1/2012)*

Tasks and Due Dates

Phase 1 Completed: Form a Statewide Leadership Team/Steering Committee (November 2009 – January 2010)

Description: Convened an apprenticeship project leadership team to assist the Council with implementation of the action plan. The leadership team assisted in the identification of pilot projects and worked with pilot project sites, as needed, to identify and engage regional partners, understand the guidelines and process to develop a registered apprenticeship program, and address regulatory barriers by liaising with other state and federal partners.

Action Taken: The Council Chairman appointed and convened the leadership team in January 2010. The Chairman added a representative from the Texas Veterans Commission in March 2010 and a representative from the Texas Department of State Health Services in December 2010.

The leadership team selected the following industries: allied health, health information technology, energy, aviation, and logistics and distribution. The team also defined two types of projects that would be considered under this action plan:

- ▶ A **pilot project** is one in which a partnership has formed to develop a registered apprenticeship program in an occupational area that has not traditionally used apprenticeship as a means to train its workforce.
- ▶ A **demonstration project** is one in which a partnership has formed to adapt an existing registered apprenticeship program to meet emerging industry demand.

The team met in 2010 and 2011 to hear presentations about proposed projects and to make recommendations to the Council's Executive Committee.

Phase 2 Completed: Identify Pilot Projects (February 2010 – September 2010)

Description: Identified potential projects to address employer demand for skilled workers through registered apprenticeship training. Employers were required to be active partners in the design and implementation of each project, and projects were required to be (1) engaged in the modification of an existing registered apprenticeship program to incorporate the increased flexibility afforded by revised regulations or (2) developing a new registered apprenticeship program in an occupation that is part of one or more of the Governor's six target industry clusters. As appropriate, selected projects incorporated a pre-apprenticeship component for high school students interested in pursuing an apprenticeship program after graduation and/or for adults interested in registered apprenticeship but not prepared for successful completion of the classroom instruction component.

Action Taken: The leadership team recommended six projects for approval by the Executive Committee. The Executive Committee approved four projects in September 2010, a fifth project in December 2010, and the sixth and final project in March 2011.

Council staff, in consultation with U.S. Department of Labor's (DOL) Office of Apprenticeship, worked with lead staff for each pilot to develop project action plans and implement a quarterly reporting schedule. Demonstration project teams also agreed to report quarterly to the Council on their progress toward implementing the enhancements to their current registered apprenticeship programs.

The leadership team, the Executive Committee, and the full Council were briefed on the status of the action plans and the establishment of a quarterly reporting schedule. The schedule provides for regular written and verbal updates to all three groups.

Phase 3 In Progress: Seek Funding to Support Pilot Projects (April 2010 – ongoing)

Description: Pilot project teams will seek federal, state, and private funding to support their projects and will submit proposals for funding as opportunities arise.

Progress Report: Staff continues to monitor announcements from state and federal partner agencies regarding availability of funds for expansion or creation of registered apprenticeship projects. Where possible, the leadership team assists selected pilots in identifying and pursuing opportunities for the funding they need to develop and implement their programs.

Phase 4 In Progress: Implement and Evaluate Pilot Project (September 2010 – December 2012)

Description: Pilot project teams are working with the DOL Office of Apprenticeship to complete the registration process for the new or modified apprenticeship program. As required by federal regulations, new programs that meet required standards for registration are given provisional approval for a one-year period. At the end of the initial year, the DOL Office of Apprenticeship reviews the programs after which program approval may be made permanent, continued as provisional, or the program may be recommended for deregistration. Pilot project teams are asked to report on the review outcome as part of their quarterly reporting to the Council. The leadership team will prepare recommendations to the Executive Committee regarding replication of successful pilots.

Progress Report: With project selection complete, the leadership team's role has shifted to (1) providing support and technical assistance based on members' background and position, (2) helping to identify funding and other resources, and (3) monitoring progress. A reporting schedule has been established, with reports due to the Council each quarter. The leadership team reports to the Council's Executive Committee, which is charged with overseeing implementation of this action plan.

Phase 5 In Progress: Replicate Successful Projects (2013-2015)

Description: The Council will publish a report on the pilot projects and recommendations for successful replication. The Council and lead staff for pilot projects will participate in presentations and other modes of communication to discuss lessons learned and promote replication.

Progress Report: As implementation proceeds, project staffs provide documentation of processes and tools developed for the project. Processes and tools might include: (1) developing standards and achieving registration; (2) developing targeted marketing materials; (3) working with employers; (4) developing student and instructor guides; and (5) distributing and promoting use of these and other examples. Such examples might assist with the review of projects and development of recommendations for replication. Documentation of promising practices is underway.



Profiles for four projects are provided in this progress report:

1. Community Health Worker, Coastal Area Health Education Center [pilot]
2. Comprehensive-National Electrician Solar Training, Austin Electrical Joint Apprenticeship Training Committee, ImagineSolar, and the Capital Area Workforce Board [demonstration; grant ended July 14, 2012 – final project report received; DOL evaluation report publication pending]
3. Health Information Technology, Dallas-Fort Worth Hospital Council Education and Research Foundation [pilot]
4. Pre-Apprenticeship, Distance Learning and Outreach to Underserved Populations, Independent Electrical Contractors of Texas [demonstration]

Project Type Descriptions

In 2008, DOL approved revisions to the federal apprenticeship rules increasing flexibility that enables a wider variety of industries and occupations to use the registered apprenticeship model:

The term apprenticeship, which for an individual apprenticeship may be measured either through the completion of the industry standard for on-the-job learning (at least 2,000 hours) (time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach).

(i) The **time-based** approach measures skill acquisition through the individual apprentice's completion of at least 2,000 hours of on-the-job learning as described in a work process schedule.

(ii) The **competency-based** approach measures skill acquisition through the individual apprentice's successful demonstration of acquired skills and knowledge, as verified by the program sponsor. Programs utilizing this approach must still require apprentices to complete an on-the-job learning component of Registered Apprenticeship. The program standards must address how on-the-job learning will be integrated into the program, describe competencies, and identify an appropriate means of testing and evaluation for such competencies.

(iii) The **hybrid** approach measures the individual apprentice's skill acquisition through a combination of specified minimum number of hours of on-the-job learning and the successful demonstration of competency as described in a work process schedule.

SOURCE: *Federal Register*, Vol. 73, No. 210, Wednesday, October 29, 2008, p. 64428: §29.5(b)(2).

Occupation and Project Lead	Community Health Worker (CHW) – Coastal Area Health Education Center (AHEC) serves as the lead agency and is also a training partner and initial apprenticeship site.
Implementation Area:	Texas AHEC East Coastal Region – 111 counties
Project Type:	Hybrid
Key Partners:	<ul style="list-style-type: none"> ▶ Potential Apprenticeship Sites: Texas AHEC East Coastal Region; Matagorda Episcopal Health Outreach Program; South East Texas Health Access Network; National Heart, Lung, and Blood Institute; Baptist Orange Hospital; and Orange County ▶ Training Partner/Employer Support – Texas AHEC East Regional Operations and regions: Capital, Coastal, DFW, Greater Houston, North Central, Northeast, Piney Woods, Victoria, and Waco
Quarterly Synopsis – as of May 2013:	<ul style="list-style-type: none"> ▶ Apprenticeships have been included in several grant applications. Texas AHEC East assisted communities with state grant applications. Waller County was funded through Texas AHEC East Greater Houston which will be the registered employer and trainer for eight apprentices. ▶ Texas AHEC East received federal funding for a multi-year Primary Care Integration Project. A behavioral health component will be added to the core curriculum. Currently in review, it will be submitted to the Department of State Health Services (DSHS) and DOL for approval. This fall, it will be piloted in several primary care sites with participants registered as apprentices. ▶ A Medicaid waiver option that provides states flexibility for programs that promote Medicaid and CHIP objectives has created additional interest. Community health plans have been submitted to the state and many include apprenticeship involvement. Initial reviews by the federal Centers for Medicare and Medicaid Services (CMS) were expected to be complete by late May. ▶ CMS also released a grant opportunity for states not planning to participate in a state-operated insurance exchange. Many applying organizations plan to use community health workers.
Background:	<p>CHWs are frontline public health workers who serve as liaisons between underserved communities and healthcare and social service providers. Demand is projected to increase due to the healthcare provider shortage and the need for cost containment and culturally appropriate personnel.</p> <p>The Texas AHEC East Coastal Region is implementing registered apprenticeship as a means of creating a replicable training model for consistent, quality instruction to CHWs, coupled with on-the-job learning. This training model has the potential to increase the quality and quantity of CHWs in Texas and other states, thereby playing an important role in meeting growing demand.</p> <p>This AHEC is certified by DSHS as a training institution. The center provides the required 160-hour CHW curriculum and continuing education for both CHWs and instructors. Participants work in the field while in training, and are classified as trainees until completing the required curriculum and receiving their certification. CHWs typically receive benefits and earn \$10.50 to 15.00 per hour.</p> <p>Based on the Coastal Region's submission, DOL approved the CHW as an apprenticeable occupation in July 2010. The apprenticeship program includes 2,000 to 2,200 hours of on-the-job learning and up to 300 hours of classroom instruction, including 160 hours focusing on eight core competencies required by the state and 140 hours of supplemental training that allow for movement into other healthcare fields or additional specializations (e.g., diabetes, asthma).</p> <p>In August 2012, DOL held a summit to celebrate the 75th anniversary of the National Apprenticeship Act. Texas AHEC East was honored as a <i>Registered Apprenticeship Innovator and Trailblazer</i> for implementing a statewide CHW training and certification methodology. The AHEC has presented the apprenticeship model at events sponsored by DOL and multiple states. DOL and the U.S. Department of Health and Human Services held webinars for the workforce and AHEC systems, presenting opportunities for collaboration and apprenticeship as an option for CHW and other health professions.</p>
Resource Needs:	<p><i>Profession/Project Recognition:</i> Council assistance with (1) educating individuals regarding the CHW field; (2) facilitating introductions of project staff to workforce system program staff to increase collaborative efforts where applicable; and (3) alerting project staff of CHW related announcements.</p> <p><i>Funding:</i> Council assistance/support (1) when seeking funding for CHW efforts; (2) informing project staff of funding opportunities; (3) obtaining workforce training funds to offset employers' training costs; (4) locating funds for statewide media campaign to increase knowledge of the CHW profession; (5) locating funds to support development of a statewide CHW network; and (6) locating funds to develop additional differential coursework as well as continuing education opportunities.</p>
Outcome Measures:	<ul style="list-style-type: none"> ▶ Number of employers registered as apprenticeship sites ▶ Number of CHW Apprentices beginning the program ▶ Number of CHW Apprentices completing the program ▶ Number of CHW Apprenticeship completers who retain or gain employment ▶ Percent of employers rating the didactic training as helpful or very helpful ▶ Percent of CHW Apprentices that rate the didactic training as helpful or very helpful

Executive Committee Approval:
September 10, 2010

Health Information Technology, Dallas-Fort Worth Hospital Council Education and Research Foundation

Occupation and Project Lead	Information Technical Project Manager and Generalist – Dallas-Fort Worth Hospital Council Education and Research Foundation/North Texas Regional Extension Center (NTREC) serves as the program sponsor with management and oversight responsibility.
Implementation Area:	42 counties located in the Northeast Texas region
Project Type:	Time-based
Key Partners:	Advisory Committee: <ul style="list-style-type: none"> ▶ Educational partner – Richland College of the Dallas County Community College District ▶ Employers – Vitera Healthcare Solutions (Sage), Sandlot, Private Practice Initiatives, Baylor Health Care System, Texas Health Resources, and John Peter Smith Health System
Quarterly Synopsis – as of May 2013:	<ul style="list-style-type: none"> ▶ Richland College has adapted the nationally developed curriculum to meet regional needs. After apprenticeship completion, participants can seek certification by the American Health Information Management Association. ▶ The team worked with Texas State University to identify skill sets, conduct an employer survey, and create an inventory of postsecondary and continuing education training options. A needs assessment and a long-term education plan were released in 2012. They are seeking funding to develop dual-credit program offerings and career pathway models. ▶ NTREC is working to reengage employers and develop relationships with potential new partners including hospital physician groups. ▶ Due to federal budget cuts, the federal grant will be terminated in September 2013. Sustainability plans for continuing the NTREC following grant expiration are being developed.
Background:	In April 2010, the U.S. Department of Health and Human Services (HHS) announced \$267 million in grant awards to 28 additional nonprofit organizations to establish Health Information Technology (HIT) Regional Extension Centers (RECs). Funded by the American Recovery and Reinvestment Act of 2009, the grants are intended to support the growing HIT industry, which is expected to employ thousands of workers in occupations ranging from nurses and pharmacy technicians to Information Technology (IT) technicians and trainers. HHS designated the Dallas-Fort Worth Hospital Council Education and Research Foundation (Foundation) as the NTREC.
Executive Committee Approval: September 10, 2010	<p>As one of four Texas RECs, the Foundation received a grant of almost \$8.5 million to help grow the emerging HIT industry for a multi-county region centered on the Dallas-Fort Worth metroplex. During the two-year grant period, NTREC will assist at least 1,498 of the region’s 8,528 primary care providers to achieve “meaningful use” of electronic health records by supporting development of the necessary HIT workforce. The demand for skilled workers is being driven by the timetable established by HHS for implementation of the Health Information Technology for Economic and Clinical Health Act of 2009.</p> <p>The federal grant was extended through 2014 for a four-year total of \$9.4 million, but will be terminated early due to federal budget cuts. The primary focus of the Foundation’s grant is not workforce development, but rather to offset physician and provider (e.g., pharmacies, hospitals, labs) costs associated with electronic health record implementation. However, \$175,000 in grant funds is being used by NTREC to finance the apprenticeship initiative for two years, including an investment of \$10,000 per apprentice.</p> <p>The NTREC plans to facilitate registered apprenticeships with participating entities, utilizing IT classifications that have existing approval from DOL. Training will be developed for the occupations of IT Project Manager and Generalist. Employers and educational institutions will be involved in the development and implementation of a work process that includes on-the-job training, classroom instruction, and mentoring. Following successful completion of training, participants can seek HIT certification by the American Health Information Management Association.</p>
Resource Needs:	<ul style="list-style-type: none"> ▶ Staff and organizational support of program sponsors ▶ Educational training expenses including tuition, fees, books, and supplies ▶ Employer partner support for on-site job mentors and apprenticeship wages ▶ Program outreach to potential participants ▶ Program outreach and development to implement in other regions across the state as needed
Outcome Measures:	<ul style="list-style-type: none"> ▶ Number of employers participating by completion of the pilot project ▶ Number of apprentices trained by completion of the pilot project

Comprehensive-National Electrician Solar Training

Occupation and Project Lead Electrician Solar Training – Austin Electrical Joint Apprenticeship Training Committee (AEJATC), Capital Area Workforce Board, and ImagineSolar

- Implementation Area:**
- ▶ *Original grant* – 17 counties in Central Texas, including a train-the-trainer model for up to 50 participants (JATC trainers) from other JATCs in International Brotherhood of Electrical Workers (IBEW) 7th District
 - ▶ *Grant modifications* – extended (1) training to any IBEW incumbent electrician in the 7th District and (2) grant period to mid-July 2012

Project Type: Hybrid

- Key Partners:**
- ▶ AEJATC, the DOL grantee, provided program facilities and electrical training
 - ▶ ImagineSolar provided solar electrical training and solar industry expertise
 - ▶ Capital Area board served as program agent and fiscal agent for the grant
 - ▶ All three collaborated to identify immediate employment opportunities for trainees
 - ▶ Outreach conducted through local board one-stop centers, community-based organizations, veterans representatives, IBEW, and the National Electrical Contractors Association

- Quarterly Synopsis – as of May 2013:** As of the quarter ending September 30, 2012 [final project report]:
- ▶ Over 2,000 participants enrolled in training including 340 who exited but returned for additional training. Of 1,986 total exiters, 1,219 successfully completed. As of September 2012, over 46 percent earned credentials (e.g., North American Board of Certified Energy Practitioners Entry Level and Photovoltaic (PV) Installer exams, OSHA 10 certification). Detailed completion, certification, employment, and retention data are available.
 - ▶ The program was recognized by the National Governors Association as a promising practice. The local board received the National Association of Workforce Boards' *2012 Workforce Investment Board Grand Prize*, in part for their efforts with this project.
 - ▶ Training was available for a five-state area using on-site, online, and online-mentored components.
 - ▶ A Solar Technical Sales course was added to enhance participants' skill sets and employability.
 - ▶ ImagineSolar took the lead in providing job development services, by implementing an Employer Outreach Program that utilized LinkedIn and Facebook social media.
 - ▶ The partners participated in a DOL-sponsored grant implementation evaluation. The final report was released on March 27, 2013.

Grant ended July 14, 2012

Background: In 2009, DOL announced plans to distribute approximately \$100 million in green jobs training grants through the American Recovery and Reinvestment Act. In January 2010, the AEJATC, working in partnership with the Capital Area workforce board and ImagineSolar, was awarded over \$4.8 million for its project.

Executive Committee Approval:
September 10, 2010

The Comprehensive-National Electrician Solar Training (C-NEST) initiative was the only Texas-based grant recipient out of the 25 projects chosen nationally. C-NEST viewed itself as a demonstration of regional collaboration and partnership in conducting residential, commercial, and utility solar electrical training on a large scale.

C-NEST was designed to provide training to new and current electrical workers for residential, commercial, and utility-scale solar PV technology construction projects. PV refers to technology using solar panels to convert sunlight to electricity.

The project plan was to train approximately 1,000 electrical workers for the growing solar renewable energy sector in Central Texas, including Construction Wiremen/Construction Electricians, Apprentices, and Journeyworker Electricians. Train-the-trainer sessions were planned for the five-state area covering Arizona, Kansas, New Mexico, Oklahoma, and Texas; however, DOL approved a grant modification allowing on-site training by certified instructors and participant access to equipment for hands-on activities.

Planned Outcomes:

	Participants	Electrical Workers	NJATC Trainers
Trained		950	50
Completing training (95%)		902	48
Passing entry level exam (85%)		677	41
Retain employment		504	n/a
Placed in training-related employment		168	n/a

Occupation and Project Lead	Electrical – Independent Electrical Contractors (IEC) of Texas
Implementation Area:	Statewide – 12 IEC chapters reach all 254 counties
Project Type:	Multiple strategies to enhance registered apprenticeship
Key Partners:	<ul style="list-style-type: none"> ▶ IEC of Texas, local IEC chapters in Texas, and IEC Atlanta Chapter ▶ Tarrant County and North Central Texas workforce boards ▶ School districts ▶ Community organizations ▶ Veterans organizations
Quarterly Synopsis – as of May 2013:	<ul style="list-style-type: none"> ▶ <i>Distance Learning</i> – The program is available statewide and marketing efforts are ongoing. Start dates may be modified to accommodate more students. Project representatives met with west Texas contractors to discuss the program. New interest was generated and the Fort Worth chapter will hold a first-year class if nine students apply. Second-year through fourth-year classes will be added as students progress through the program and opt to continue via distance learning. ▶ <i>Pre-apprenticeship</i> – The 240-hour curriculum has been finalized and distributed to IEC chapters. The Fort Worth chapter is working with the Tarrant County workforce board and the Naval Air Station Joint Reserve Base in Fort Worth to present a pre-apprenticeship program for veterans. Workforce board efforts to identify funding are ongoing. ▶ <i>Outreach to Youth and Women</i> – Outreach to youth and women is conducted through schools, local boards, community organizations, and nonprofit organizations, such as San Antonio’s George Gervin Center. Local chapters sponsor and participate in high school career fairs and sponsor Skills USA competitions. A mail campaign to high school counselors was to be completed in May.
Background:	IEC of Texas is a trade organization that sponsors a four-year electrical apprenticeship training program registered with DOL. Over four hundred electrical contractors participate and as of fall 2010, 1,650 registered apprentices were in IEC programs.
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Executive Committee Approval: December 2, 2010</p> </div>	<p>The ultimate goal is to implement training strategies throughout the state that result in a ready supply of well-trained workers. The Bureau of Labor Statistics projects that by 2014, the need for electrical workers nationwide will increase to 734,000, an increase of 78,000.</p> <p>To enhance registered apprenticeship, the IEC project incorporates three strategies that were approved by DOL in the 2008 revisions to federal apprenticeship regulations. Chapters are able to select one or more strategies that are compatible with their available resources and goals. Options include:</p> <ul style="list-style-type: none"> ▶ <i>Distance Learning</i> – This component has been designed in partnership with the IEC Atlanta Chapter, based on the successful online apprenticeship training program developed for IEC apprentices in Georgia. It enables apprentices in remote areas to receive real-time classroom instruction through use of computers and webcams. IEC created an Apprenticeship and Training Committee to develop each strategy. The project was launched in fall 2011. Last year, the Fort Worth/Tarrant County Chapter completed the first-year curriculum, which includes interactive online work and hands-on lab time. Two participants (50 percent) graduated. In fall 2012, the Gulf Coast chapter started a new class with three participants. After enrollment declined, the remaining student transferred to the classroom format. ▶ <i>Pre-apprenticeship</i> – The pre-apprenticeship program builds on the program previously developed and implemented by the IEC Fort Worth/Tarrant County Chapter in partnership with the Tarrant County workforce board. It includes topics such as employability skills, OSHA requirements, and math in order to facilitate participants’ transition into IEC Registered Apprenticeship programs. A green job training component may be added, expanding the modular curriculum to up to 320 hours. IEC chapters will partner with their local boards to identify pre-apprenticeship candidates. ▶ <i>Outreach to Youth and Women</i> – Outreach will be conducted in secondary schools and with numerous community organizations. IEC Fort Worth/Tarrant County has partnered with an area school district to offer some of its courses in high school beginning in the fall of 2011. These courses are already available in some schools in the Austin and San Antonio areas. Outreach and recruitment of women will include work with veterans organizations, local workforce boards, and other community organizations.
Planned Outcomes:	<ul style="list-style-type: none"> ▶ Pre-apprenticeship program revised and implemented fall 2011 ▶ Outreach and recruitment of youth expanded fall 2011 ▶ Outreach and recruitment of women developed and implemented fall 2011 ▶ Distance-learning design completed and available fall 2011

Texas Workforce Investment Council

System Partners

*Economic Development and Tourism
Texas Department of Criminal Justice
Texas Education Agency
Texas Health and Human Services Commission*

*Texas Higher Education Coordinating Board
Texas Juvenile Justice Department
Texas Veterans Commission
Texas Workforce Commission*

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Paul Jones, Texas Carpenters and Millwrights
Training Trust Fund

Community-Based Organization Representative

Sharla Hotchkiss, Consultant and Trainer (Vice Chair)

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